

# It is not a Panacea but you can try...

*Overview of approaches used in different countries for treating stuttering as communication difficulty and speech disorder*

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# Abstract

Communication is a key factor in our life. Communication skills are important for development of the professional and personal relationships. Without them, one's effectiveness in all roles during the life is limited. The main focus of the present research is **stuttering** that is a speech disorder where the sounds, syllables, or words are repeated or last longer than normal.

The main purpose of the study was to find out the best approaches of treating stuttering through identification and classification of stuttering, and in designation of existing approaches for its treatment with a particular focus on Ukraine and Norway.

Focusing on these two countries in an international frame was even more interesting, since understanding of this disorder and the approaches used for its treatment have been very much influenced in the past by the Soviet scientists in Ukraine and by the American, British and Australian researchers in Norway.

The study was performed according to the qualitative approach based on a case study design using the document analysis as a research method. Data analyses were performed using a reflective type of analysis and by using the concept of interpretive zone according to Wasser & Bresler (1996).

The received results indicated broad spectrum of differences in theories about the cause of stuttering, its definition and classification as well as its assessment between Norway and Ukraine. This led to the differences in approaches used for treatment of stuttering. This study also showed that understanding of stuttering as a disability and its treatment should be analyzed in the context of historical, social, economic and political relations in the two mentioned countries as well as taking into account the national cultural features.

In addition, this research highlights other factors that influence the ways of stuttering treatment and that should be considered for adaptation and implementation of new approaches in each country (if such decision would be done). Among them, there are models of designation and treatment of disability, the sectors of healthcare, interactions: speech language therapist– person who stutter, teacher – person who stutter, peers – person who stutter; role of the family and the environment.

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Oslo, May 15<sup>th</sup>, 2013

Olena Demydenko

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# Chapter 1: Introduction

Communication is a key factor in our life. Communication can be described as a process of reception, perception, digestion and reflection of incoming information and transferring it further through the exchange of thoughts, messages, or news via speech, visuals, signals, writing, or behavior. The aim of communication is to generate shared understanding between one person who provides information (about the needs, desires, feelings, attitudes, thoughts, ideas, knowledge, etc.) or receives it from another person(s) (Merriam-Webster, 2013).

Accordingly, the communication skills are so important for exchange of information as well as for the development of the professional and personal relationship. The relationship begins and grows through communication, and the quality of communication influences the quality of the relationships, development of personality and the life conditions. Therefore, the effective communications skills are essential. Without them, one's effectiveness in all roles during the life (educational, professional, leadership, managing, parental, friendship, etc.) is limited (Farr, 2003). To fulfill the goals of communication, language has been developed independently in different human societies as a universal system of oral communication that uses voice sounds, gestures, spoken words, signals, written symbols. Speech is the vocalized form of communication.

I decided to focus on stuttering, which is a speech disorder where the sounds, syllables, or words are repeated or last longer than normal. It is also considered as a disorder causing communicational difficulties for the stuttering person. According to Shapiro (1999), stuttering is both a multidimensional and manageable composite of behaviors, thoughts, and feelings.

Many stuttering persons encounter discrimination in quite a few life areas; they are very often being bullied at school, then as adults being discriminated or mistreated by the employers and colleagues. Those who stutter, just like most people with disabilities, are confronted with ignorance, harassment, lack of awareness and refusal, or inability, to accommodate their needs (Farr, 2003). Therefore, the successful treatment of stuttering must take into account not only a person who stutters, but also as many persons as possible within his/her communicational system. The longer person continues to suffer from this disorder without effective treatment, the longer the eventual recovery process may take. This is why prevention, early diagnosis and proper treatment of stuttering are so important.

Battle (1993) argues that we cannot study or understand communication and its disorders without reference to the cultural, historical, and social bases of the corresponding human society and its culture. Knowledge about different cultures, awareness, and sensitivities are positive inputs of specialists working with persons who stutter.

This research is my attempt to find out the best approaches of treating stuttering through identification and classification of stuttering, and in designation of existing approaches for its treatment with a particular focus on Ukraine and Norway. Focusing on these two countries in an international frame is even more interesting, since understanding of this disorder and the approaches used for its treatment have been very much influenced in the past by the Soviet scientists in Ukraine and by the American, British, Australian researchers in Norway.

In my opinion, this study will be interesting for the researchers and professionals who deal with stuttering as the disorder, for educators (teachers and kindergarten leaders) and also for people who stutter themselves and for their families. I would consider this research rather as sharing the experience and information between different countries in times of globalization.

## **1.1 Background and purpose of the study**

The reason to start this research is that the amount of children with special needs grows in Ukraine from year to year. At the same time, the need in their effective treatment grows as well. There are historical, cultural and social circumstances, and the environment that have great influence on how care and education of those children is organized. During the last few decades, significant changes took place in Ukraine and all over the world in understanding and providing the qualified education for children with special needs at different levels. Being an integral component of the education system, teaching children with special needs is tightly bound to the society and is conditioned by the ethos, culture and character of the nation. It is also dependent on both the internal (objectives, goals, policy of the state) and external (international influence, reforms) factors. This is why in time of globalization and ratification of many international declarations and laws, the Ukrainian society develops great interest in acceptance of new trends in education and treatment of the disorders from other countries.

As a speech therapist, I am interested in classification and designation of existing approaches for treating communication disorders and speech disabilities. Since it is a fairly broad field, I decided to focus on stuttering.

The **Goal** of my research is a comparison of different theoretical and practical approaches for treatment of persons with stuttering in Norway and Ukraine from historical to modern perspectives.

This research about stuttering was chosen purposefully and has scientific interest, since although existing for centuries the cause of stuttering is up-to-now unknown; it appears to have a multi-factorial origin with the current research suggesting environmental, neurological and genetic etiology (Manning, 2001). Stuttering is found in all parts of the world and in all cultures. In many countries, stuttering is considered as disability. Persons with stuttering very often encounter discrimination in quite a few life areas. This is why prevention, early diagnosis and proper treatment of stuttering are so important. It is also important to provide stutterers with adapted education meeting all their needs. Early treatment in the childhood (before age of 6) appears to be reasonably successful, although there after, with increasing age, the recovery is much more difficult (Guitar, 2006). In addition, recovery from stuttering needs change of the personality and supporting connections. However, some people do not or cannot make the necessary changes and, rather than follow a recovery course, choose to move to a way of self-acceptance as a stutterer. Therefore, stuttering is the disability that can be managed with various levels of success, which depends on a person's age, severity of the disorder and the support (Irwin, 2005). In the essay "Defect and Compensation", the well-known psychologist L. S. Vygotsky has mentioned stuttering as an example when the obstruction of a function stimulates a high level of its operation. Struggling with the speech disorder such as stuttering, Demosthenes became prominent political leader and orator of ancient Greece. Among other stutterers, who became famous later, were Aristotle, Charles Darwin, Isaac Newton, the writer Lewis Carroll, the former British Prime Minister Winston Churchill, the King George VI, a singer Elvis Presley, an actress Marilyn Monroe, etc.

The contemporary remedial work with stutterers is associated with an individually oriented approach of training and education, which in Ukraine is essentially based on research of L. S. Vygotsky, A. Luria, and S. Rubinstein in the fields of psychology and pedagogy. Due to the successful application of these studies in modern systems of work, there is a tendency of further development and deepening of these approaches in working with stutterers.

## 1.2 Short description of the country – Norway

Since it is a two case study, I found reasonable to make a short description of the countries, which are presented in this research.

**Norway** – officially the **Kingdom of Norway** –is a Nordic unitary constitutional monarchy with rather small and egalitarian society. Norway is a country of big distance and has a total area of 385,252 square kilometers and a population of about 5 million inhabitants (with circa 13.1% of immigrants, and children born in the families of immigrants). It is the second least densely populated country in Europe with steadily growing population. There are two main Norwegian **languages**, Bokmål and Nynorsk, and a few recognized regional languages, Northern Sami, Lule Sami, Kven and Southern Sami.

### 1.2.1 Education

Education in Norway is mandatory for all children aged 6–16. All children have the right to receive instructions in accordance with their abilities. There are the following educational grades: Kindergarten (up to six years of age), primary and lower secondary school (six – sixteen years of age), and upper secondary school (sixteen to nineteen years of age). Students sometimes have to change school when they enter lower secondary school and upper secondary school, as most schools only offer one of the levels. Anything beyond the upper secondary school is considered as higher education and normally lasts three or more years (colleges and universities). An adult education is provided at all educational levels.

**Special schools.** From mid 1970s, the previously existing 20 special state schools have been reformed in Norway. Most of the schools have ultimately been closed, some of them were given to regional or national resource centers. Nowadays, there are still existing only special schools for persons with visual and hearing impairments (Reynolds & Fletcher-Janzen, 2007).

### 1.2.2 Towards inclusion in Norway.

In 1881, Norway adopted the law about compulsory education for children who were blind, deaf, and mentally retarded. Education of such children posed particular problems and since 1889 Norway had history of segregating persons with disabilities by placing them into special closed schools. Although these places were organized with the best intentions of being a

positive substitute, they quickly become overcrowded. Since Norway is the country of large distances, many pupils could see their families only once or twice a year. This situation continued until 1960s when big changes in the society happened and the understanding appeared that people with disabilities have equal human rights. The people in the country no longer believed that it was best for children with disabilities to be left in the closed institutions and to be forgotten (Ingstad & White, 1995). Also the terms 'disability' and 'disable persons' had appeared in Norway in 1950-1960s and had replaced previous terms, such as intellectual weakness, deafness, blindness, insane, etc. In Norway, there is no specific anti-discrimination act relating to disability; however, the Working Environment Act (WEA) contains a number of relevant provisions (WEA, 2009).

In Norway, the experience with inclusion education lasts since 1960s when it was in the phase of explanation and clarification. In 1970s, first legislation movements were done away from the strongly segregated schools and institutions to a more open school system for students with disabilities. In 1980s, Norway had a phase of realization-education at the local municipality level. This time, reorganization of some special schools into the resource centers was introduced for the first time. Two decades ago in 1990s, there was the phase of reforms. Nowadays Norway can be described as a country with alternative schools, individual education plans, the pedagogical and psychological service system (1st line), cooperation between the regional and national services, and adapted education (Theie, 2006).

### **1.2.3 Development of speech language therapy in Norway**

#### **Overall description / Legal basis**

In Norway, the speech and language therapy is a public service, which is free of charge and provided by either the School system or the Health system. The obligation to provide this service is regulated by the following legal acts:

1. The Law of Education
  - a. Individuals of age groups 0-16 and 20-100 are under responsibility of the local communities
  - b. Individuals of age group 16-19 are under responsibility of the county
2. The Law of Public Health

Mainly adults, referred from doctors, are offered services under this law. Some children that are refused services under the Law of Education or those that are on long waiting lists may also receive services under this law.

Speech and language therapy has been recognized mainly as a part of the special education in Norway, but also partially as a health profession. There are approximately 1.500 speech and language therapists in Norway (Dahl, 2004).

#### *Organization of speech and language therapy on the local level*

In Norway, each community has a Pedagogical Psychological Counseling Service, which is responsible for all individuals with special educational needs, except teenagers of 16-19 for who the Pedagogical Psychological Counseling Service of the county is responsible. The speech and language therapists are usually employed by the community and work directly at the schools (including the Adult Education centers), or at the speech and language therapy centers of the community. Some therapists are also working in hospitals and rehabilitation centers. All speech and language therapists are employed under the Law of Education (Dahl, 2004).

#### *Organization of speech and language therapy in the country*

In private practice, the speech and language therapists are generally working under the Law of Public Health. In some cases, the community education system buys services from them. Due to the presence of two different law regulations, the authorities have tried to eliminate the consumer rights under the Law of Public Health, pointing out that the speech and language therapy was defined as special education and, therefore, the rights of the consumers are included under the Law of Education. During the last few years, the Norwegian Association of Speech and Language Therapists (NLL) worked hard against these attempts. NLL advocates that the speech and language therapy is a profession belonging to both education and health, thus trying to improve services that are far from good enough under the Law of Education. To some extent due to these activities, the adults also obtained the right for remedial education after disease or accidents (Dahl, 2004).

## **The National Support System for Special Needs Education (Statped)**

The objectives of Statped (*Statlig spesialpedagogisk tjeneste*) include offering special educational guidance and support to local municipal and county authorities, which are in charge for education, and providing children, young people and adults with educational and developmental provisions. Statped has expertise in six different disciplines, such as hearing impairment, visual impairment, deaf-blindness language and speech difficulties, acquired brain injury, and learning difficulties. It includes interdisciplinary work towards the individual needs. The agency is divided into four regions and is supervised by the head office in Oslo. The organization is managed by the Norwegian Directorate for Education and Training which is the executive agency for the Ministry of Education and Research (Statped, 2011).

## **1.3 Short description of the country – Ukraine**

Ukraine is a part of Eastern Europe. Since 1654, it was a part of the Tsardom of Russia and later of the Russian Empire. Last century for around 70 years, it was a part of the former Soviet Union (USSR). Ukraine became an independent State when the Soviet Union dissolved in 1991. Currently Ukraine it is a Republic under a mixed semi-parliamentary / semi-presidential system with separate legislative, executive and judicial branches. Ukraine is an agro-industrial country; it occupies total area of 603,628 square kilometers and has a population of about 45.6 million inhabitants. Most of the inhabitants are ethnic Ukrainians (77.8%), with sizable minorities of Russians (17%), Belarusians and Romanians.

It is necessary to admit that the population is currently shrinking by a rate of over 150,000 per year due to demographic crises (Lekhan et al., 2010). Ukraine: Health system review. Among them, there are 160,719 disabled children of age under 18 years on records and 17,010 children were first recognized as disabled. Most of children with disabilities (68.7%) are living in urban areas and 31.3% are living in rural areas.

The official **language** is Ukrainian, there are also recognized regional languages, such as Armenian, Belarusian, Bulgarian, Crimean, Tatar, Gagauz, German, New Greek, Hungarian, Karaim, Krymchak, Moldovan, Polish, Romani, Romanian, Russian, Slovak, Yiddish. Most native Ukrainians speak Russian as a second language.

### **1.3.1 Education in Ukraine**

Since its independence, Ukraine has attempted to restructure its Soviet style education system. According to the Ukrainian constitution, access to free education is granted to all citizens. Now it has European public education structure with the following principal educational levels: preschool; primary general education (starting at age six); basic general secondary education; full general secondary education (a twelve-year school program); professional technical education; education qualification levels for “qualified workers”; and a high school education which includes undergraduate, graduate, and doctoral levels. Complete general secondary education is compulsory in the state schools that constitute the overwhelming majority (Verkhovna Rada of Ukraine, 1991).

**Special schools.** The special schools (396 in total) still exist for children with specific disabilities (such as physical disabilities), mental retardation, sensory disabilities (such as visual impairment or blindness, and deafness or hearing impairments), social-emotional needs, and health needs. They offer 6 to 12 years of schooling (13 years if necessary). The alternative institutional forms include visiting lyceums, home schools, integrated learning and inclusion.

### **1.3.2 Towards inclusion in Ukraine**

The problems with the child development in some children were at all times, however the attitudes towards them and methods for correction were different. During old times, the main help was private and had a charitable nature. Most of the blind, deaf, mentally retarded and disabled children were raised in a family; some of them vagabonded and lived on begging up to the end of 19th century. When Ukraine was part of the Soviet Union, the disability was regarded as a stable loss of the ability to work. For many years, children with disabilities remained at the margins of the Ukrainian regular education system or have been excluded from it. These children were educated in a separate, special school system, which consisted of independent institutions; many of them operating as boarding schools (Korenev et al., 2009).

It should be noted that the education of children with special needs was ruled in Ukraine for many years by ‘Defectology’, as a science of handicapped children. Defectology – literally ‘the study of a defect’ – is a science intrinsic to the post-Soviet countries, which is based on an idea that special education is the best way to offset limitations associated with disability



(Diyachkov et al., 1964). It was developed in the USSR in the 1920s by L. S. Vygotsky and still drives much of the thinking and action related to children with disabilities in the area. The theory says that the intellectual capabilities have endless potential and can correct or circumvent impairments in lesser bodily functions if helped by the proper education methods, personal contacts and stimulation (Vygotsky, 1978).

In practice, according to 'defectology' the special education has to be carried out in residential schools and institutions, thus segregating disabled children from the society, community and family. The benefits of this organizational form of special education for children with disabilities are still a matter for debate in international circles. It should also be noted that after ratification by Ukraine of the UN Convention on the Rights of Persons with Disabilities in 2009, the society faced an urgent need to abandon the use of the term pointing on the human defects, which is now perceived as a pejorative definition of the character. Therefore, 'defectology' has received its place in the list of politically incorrect terms. In addition, the new educational technologies are spreading in Ukraine, which are based on accounting the individual needs of children with disabilities. Among them, the new terms 'Correction Pedagogics', 'Special Psychology and Pedagogics', 'Integrative Education' 'Inclusion' could also be considered.

The Ukrainian criteria for illnesses differ from the criteria of many Western countries. Still different laws differently interpret the term disabled person (child), e.g. either as a person (child) with physical and mental development deficiency; or as a person (child) with defects in physical and mental development; or as a person (child) in need of social assistance and rehabilitation (Korenev et al., 2009).

The ideas of inclusion were first implemented in Ukraine by the non-governmental organizations as well as by some school rectors and the kindergarten principles in the late 1990s (Bondar, 2004). As Ukraine moves forward in its human rights efforts and its goal of becoming a truly egalitarian society, the decision makers must be reflective about education reforms. In 1995, Ukraine ratified the European Convention for Human Rights, granting social protection to its citizens with disabilities. However, the law did not extend to equality in education. Because of this, one of the most heated, and polarizing, topics in the education reform "movement" has been the concept of educational and social inclusion of children with special needs (Kolupayeva, 2004).

A coordinated action from several national ministries in Ukraine, including Education and Science, Health Protection, and Social Policy, were necessary to develop this policy. Unfortunately, these ministries do not have a history of collaboration and cooperation.

Finally, in 2010 the ideas of implementing inclusion were brought to the level of government. After long discussions, on 15.08.2011 the Ukrainian Cabinet of Ministers adopted the law on organization of inclusive education at the educational institutions all over the country (Cabinet of Ministers of Ukraine, 2011). However, until now only about 25% of the Ukrainian population has heard about inclusive education. I should admit that this is still a good trend, since 76% of the polled persons expressed their thoughts that inclusion will help Ukrainian society be more tolerant.

The implementation of inclusion in Ukraine faces many significant barriers. Inclusive education, when done appropriately, can be more expensive than the present education system. This is a formidable challenge for a country that struggles to meet its everyday operating needs. Unfortunately, many educators, administrators, and families worry that, several years later, restructuring and inclusion has not moved very far on the path from rhetoric to real action (Kolupayeva, 2004).

### **1.3.3 Development of speech language therapy in Ukraine**

Development of the speech language therapy – the field of scientific knowledge of speech disorders and the methods of their detection, prevention and elimination by special training and education – as well as the development of its terminology has been accompanied in Ukraine by a significant influence of the historical and social factors. In Ukraine, the speech language therapy was formed on the basis of the Russian (Soviet) speech language therapy school which had emerged as a science in the 1960s as a part of Defectology – a science of handicapped children.

Defectology examines psychophysical characteristics of children with mental and/or physical disabilities, as well as the laws and principles, methods and forms of organization of their education and training. For each type of speech and language disorder, specific principles and forms of diagnosis, treatment, and teaching were established; the corresponding tools and methods were developed (Diyachkov et al., 1964).

The first fundamental studies on Ukrainian language were carried out only at the end of 20<sup>th</sup> century. Up to now, the Ukrainian specialists encounter problems of proper translation of written resources and special terms from Russian into Ukrainian language, and of their correspondence to the international standards.

The current Ukrainian practice includes organization of additional groups and classes in kindergartens and schools of general type for children with speech and language problems, where they receive direct speech and language therapeutic help. For disabled children and children with severe speech disorders whose condition precludes their attending the kindergartens and schools of general type, the speech therapy help is organized in special institutions of different levels up to the professional and technical colleges (Ministry of Education and Science of Ukraine, 2009). As a separate group, there could be mentioned psychological-medical-educational consultations/commissions, speech therapy centers and health centers where children receive diagnosis and outpatient care.

## **1.4 Statement of the research problem**

### **1.4.1 Research problem**

As a research problem, I indicate different views on understanding, assessment and treatment of stuttering in Ukraine and Norway.

I am going to find similarities and differences in understanding and treatment of the same disorder in different countries.

### **1.4.2 Research questions**

Research questions can be formulated as follows:

**Main research question:** What kinds of approaches are used in Ukraine and Norway for treatment of stuttering?

Sub-questions:

- How the phenomenon of stuttering is defined and understood in two different countries?

- What kinds of classification and reasons on stuttering appearance are adopted?
- What kinds of similarities do exist in approaches for treatment of stuttering?
- What kinds of differences can be found?

### **1.4.3 Expectations of the study**

I have some expectations of the study to find approaches for treating stuttering that are well known and effective in one country; however, they will be considered as novel in another one. Hopefully, they can be adopted and effectively implemented in other settings.

## **1.5 Structure of the thesis**

The present thesis consists of five chapters. Each chapter is devoted to presenting and discussing the specific contents disclosing the research problem.

*Chapter 1* introduces the background and purpose of the study, which is a review of stuttering as a communication difficulty and a speech disorder and the need to find out the best approaches of stuttering treatment through identification and classification of stuttering, and in designation of existing approaches for its treatment with a particular focus on Ukraine and Norway. This chapter also contains the short description of these two countries including information about the education systems, the steps made towards inclusion and how the science of speech language therapy has been developed. In addition, it includes the statement of the research problem and expectation of the study.

*Chapter 2* describes theoretical framework of this research, which consists of an overview the socio-cultural theory of L. S. Vygotsky and Bronfenbrenner's ecological systems theory, as well as the theories about the cause and mechanisms of stuttering proposed by the Western scientists and by the Soviet and post-soviet Ukrainian scientists. In addition, it describes the supportive theories about models of designation and treatment of disability, the sectors of health care, interactions: speech language therapist/physician – person who stutter, teacher – person who stutter, peers – person who stutter; role of the family and environment.

*Chapter 3* introduces the research design and methodology with the details on how the data collection was done, ethical issues and research limitations.

*Chapter 4* presents the data analyses and received findings for each country regarding the definition and classification of stuttering, the ways of its assessment and approaches for its treatment.

*Chapter 5* as the last chapter concludes the thesis with major findings of the research about the common and differences in understanding the phenomenon of stuttering and its treatment in Norway and Ukraine with the focus on influence of different factors together with reflections and implications for practices and future studies.

# Chapter 2: Theoretical Framework

## 2.1 Introduction

For empirical findings and theories related to the topic, I consider the socio-cultural theory of L. S. Vygotsky that could be exploited as a conceptual guide for assessment of how the same disorder is understood and how the ideas, theories and views for its treatment were developed under the different cultural settings in different countries. Vygotsky's theory emphasized the influence of culture, peers, and adults on the child's development that the social interaction leads not only to increased levels of knowledge, but that it actually changes a child's thoughts and behavior (Vygotsky, 1978). Language is the most powerful cultural tool for learning and communication. It should also be mentioned the Vygotsky's concept about the Zone of Proximal Development (ZPD). It characterizes the process when the child follows the adult's and/or peer's patterns and gradually develops the ability to do certain tasks without help or assistance. Vygotsky called the difference between what the child can do with a help and what he or she can do without guidance as the "zone of proximal development" (ZPD) (Vygotsky, 1994). Based on this theory, wide variants of methods and materials were developed for teaching and treatment children with special educational need. B. Ingstad, S. Whyte, G. Cecil, H. Helman, and A. Kleinman were the researchers interested in connections between the culture, health and illnesses. Accordingly, culturally the people are different with different interpretations of the same phenomena.

General views of the specialists and persons about the disease and health are based on their previous experience and the social and cultural transmission of ideas and expectations. Belonging to a certain ethnic group influences the person's perception, identification, response and reporting of various symptoms, depending on which, if necessary, the persons prefer to receive certain medical care and the kinds of treatment. There is also influence of ethnic expectations, gender, and age stereotypes on illness perception, on the formation of reaction to it and behavior (Kleinman, 1980). The social and cultural factors influence how the family and other person's environment interact with person. In this context, it is worth to mention the ecological systems theory by Bronfenbrenner (1979).

To provide an overview of the approaches used for stuttering treatment and to explain why they are different, the existing theories on stuttering and its classification will be used, as

described in the works of scientists, such as B. Guitar, C. Van Riper, O. Bloodstein, E. Ham, L. Volkova, M. Khvatsev, V. Shklovsky, and others.

## **2.2 The socio-cultural theory of L. S. Vygotsky**

According to the socio-cultural theory of L.S. Vygotsky (1896-1934), the sources and determinants of human mental development belong to the culture developed during the history. The culture is a product of social life and of social human activities; therefore, the very formulation of the problem of cultural development of behavior leads us directly to the social development plan (Vygotsky, 1978).

The current definitions of culture were proposed by the researchers from a variety of fields: anthropology, psychology, sociolinguistics, political sciences and others.

The culture is the moral itself, the material and moral values, knowledge, skills, traditions and customs that are shared among members of a particular group. All these are directed into the development and preservation of the individual and of the society as a whole, to create material and spiritual living conditions that are favorable for the person and his environment (Woolfolk et al., 2008). The visible aspects of a culture include language and communication, clothing and appearance, art, buildings, food and the way of it consuming, gender relations, rituals and religion, institutions, etc. The less visible aspects of culture include self-identification, values, norms, worldviews, characteristics and methods of work, awareness of time expectations, etc. (Woolfolk et al., 2008).

According to Vygotsky (1994), the language is a psychological tool that mediates our thoughts, feelings and behavior. Speech is the most productive element of human behavior and the most powerful instrument used for communication. From the past up to now, its dominant social and cultural role is accepted as means to influence the members of the society. For children, a spoken language is very important tool for learning, expressing themselves and their needs and also for mediation with the environment. However, stuttering as a communication disorder affects one's participation within socially and culturally determined roles (Shapiro, 1999). It rallies coping skills and potentially affects the psychological and emotional make-ups, educational achievements, and professional aspiration of people who stutter. Furthermore, stuttering affects the emotions, hopes, etc., of all members of the communication system within which a person who stutters communicates.

This might involve members of the family, peers, teachers, coworkers, medical personnel, etc. (Shapiro, 1999).

Vygotsky argued that the child's development is also divided into the periods of stability, which are displaced by crises, possible regressions and new periods of stability. In each age, the crisis comprises both change in the person's worldview and change of the person's status in relation to the society and to himself. This transformation process is an important part of the person's development. Therefore, the social interactions with other people play a significant role (Vygotsky, 1978).

Based on this theory, broad variants of methods and materials were developed for teaching and treatment children with special educational needs.

## **2.3 Models of designation and treatment of disability**

There were different theories about medical, social and ecological models of designation and treatment of disability, which affected the approaches for treatment disability, as well as stuttering. The *medical model* assumes that that physical condition or disease exists within the patient (Kirk et al, 2011).

The *social model* identifies systemic barriers, negative attitudes and exclusion by society (purposely or inadvertently) which mean that the society is the main contributory factor in disabling people (Woolfolk et al., 2008).

Although the *medical model* and the *social model* are often presented separately, disability should be viewed neither as purely medical nor as purely social. The persons with disabilities can often experience problems arising from their health condition. The *ecological model* considers the people in an environment and their influences on each other (Hawley, 1950). It also tries not only to modify the exceptional person's learning and behavior but also to improve the environment surrounding, including the family and the neighborhood – the entire context of the person's life (Woolfolk et al., 2008).



In addition, the mentioned theories led to different understanding the terms such as *patient* and *illness*, the *cause* of illness, *disability* and its classification, who is able and authorized to provide treatment, etc.

## **2.4 Sectors of healthcare**

According to the socio-cultural context, culture influences the individual's health beliefs, behaviors, activities and medical treatment outcomes. Furthermore, disability and its treatment cannot be studied in isolation from other aspects of the society, especially its social, religious, political and economic organization. To combine these aspects, each society establishes the system of health care for its members (Kleinman, 1980).

Kleinman (1980) argues that in any complex society it is possible to identify three sectors of health care. He describes the health care system as a local cultural system composed of three overlapping parts: the popular, the professional and folk sectors. Each sector has its own way of explaining and treating illness, determining who is the healer and who is the patient, and how they should interact with each other during the healing process.

### **The popular sector**

This is the lay, non-professional, non-specialist, popular part of culture in which illness is defined first and then the healthcare activities are initiated. It includes all treatments that the person uses for his/her own healing, mostly as a so-called self-treatment or self-medication. According to Helman (2000), the person may also use the family, social network and community for assistance to define the symptoms, to decide where to seek treatment, and how to conduct the chosen treatment. Thus, in this sector the recognition of illness and its treatment are inexpensive. It also includes believes about healthy way of living and behaviors for preventing the illnesses. For example, healthy diets, dressing, drinking, playing, working, etc. These believes may vary from one society to another one (Helman, 2000).

Since in the popular sector mainly the person's own knowledge and the family members play significant role, it may either facilitate or harm the healing process and its outcome.

### **The folk sector**

The folk sector is the lay, non-professional, non-bureaucratic, specialist sector, encompassing both sacred and secular healers: folk healers, shamans, folk psychotherapists, midwives, chiropractors, etc. According to Helman (2000), they have in general little formal training and their skills are usually a heritage; they are trained by an older healer, or they receive their knowledge and so-called 'healing powers' from immaterial spiritual world. In modern society, their 'treatment' is widely spread by yellow mass media, popular self-help books, etc. The representatives of this sector share the basic cultural values, views and believe of the persons whom they treat. They often involve the family members to the diagnosis and healing process and provide culturally familiar and easy words, understandable explanations of the causes and treatment of illness. While folk healing has obvious danger, in some cases it provides help to the person's health, especially in dealing with psychosocial problems (Helman, 2000).

### **The professional sector**

The professional sector is the lay composed of the organized healing professions, who are legally sanctioned as such by the society. It includes physicians of various types and specialties as well as nurses, midwives, physiotherapists, etc. (Helman, 2000).

In most countries, the medical professionals receive relatively high social status, income and more clearly defined rights and obligations than other types of healers. They have alone with regular medication the official (legal) permission to prescribe powerful and sometimes dangerous treatment options or medications (Landy, 1977). They can deprive certain persons of their freedom (if they diagnose as psychotic or contagious). Only the medical professionals have rights to label their patients as savior ill or fully recovered, having chronically illness or even as person with disability(s), that may have both social (confirmation the patient sick role in society) and economic (health or pension payments) consequences for the person (Helman, 2000).

In conclusion, the mentioned three sectors are interacting and bound with each other. Quite often, the same person will freely move from one sector to another or back again, depending on his feelings in regard of the treatment outcomes from the particular sector. Since the

culture of society provides significant influences on health care, the professionals should also be culturally competent in order to provide health benefits to their patients (Landy, 1977).

## **2.5 Interaction of environment and person with stuttering**

Vygotsky's socio-cultural theory emphasizes the influence of culture, peers, and adults on the child's development, since the social interactions lead not only to elevated levels of knowledge, but rather they actually change a child's thoughts and behavior (Vygotsky, 1978).

In this context, it is also worthwhile to mention Bronfenbrenner's ecological systems theory, which views the child's development within the context of the relationship system that forms his or her environment. It defines complex of five systems, or so called "layers", of environment that have an effect on the child's development. These systems, called as a *microsystem* (an individual's immediate environment, such as family, school, peers, etc.), a *mesosystem* (relationship between the microsystems), an *exosystem* (relations between the microsystem and a system in which the individual is not directly involved), a *macrosystem* (the culture in which somebody lives, such as a nation, ethnicity, religious group, economic or social class), a *chronosystem* (environmental events and transitions over the life of an individual as well as the socio-historical circumstances). He also admitted that the individuals are active in this context and these systems are so bound and influenced by each other that a conflict in one system adversely affects all the others. Accordingly, the changes on one level may cause changes in the others (Bronfenbrenner, 1979).

Following these theories, we need to regard the speech language therapist /physician person who stutter interactions as very essential and important in the diagnosis and treatment of disability. Additional important support of the treatment and following recreation is provided by the family, teachers and the friends.

Van Riper (1982), Curlee (1998) and Shapiro (1999), argue that the specialists dealing with speech and communicational disorders as well as the clinicians should have solid information about stuttering and should have close contacts with the persons who stutter. Conture (1990) added that these specialists must be able to handle multiple inputs simultaneously and deal with different events, each with its own characteristics and real time sequences.

Knowledge and attitudes are important environmental factors, affecting all areas of service provision and social life. Negative attitudes towards disability can result in negative outcomes of the treatment or recovery process. Therefore, the effect of treatment is also dependent on the interactions between the teacher and a person with stuttering (Rustin et al., 2001).

During this interaction, it is very important that the teacher could have proper training and full information about the management of stuttering at school, could listen and respects the learner with stuttering, would be sensitive to the learner's needs, would not use punishments when dealing with the problems of proper answering the learner's questions, could give verbal praise either in front of others or in private, would cultivate good and trustful relationships, would provide corrective feedback in an appropriate manner and improve the learner's competence and self-esteem. These measures would prevent or reduce negative attitudes towards the learning process that often lead to the behavioral problems and various learning and health problems which accompany stuttering as the disorder (Rustin et al., 2001).

It is important that the teacher should be aware when the child is teased or bullied. He/she should be in close contact with the child's family and if necessary able to communicate the needed information to the other school personnel. The teacher should also be in touch with the specialist providing treatment (Rustin et al., 2001).

The above-mentioned teaching strategies are suggested to be implemented during the work with learners of any age, who are with or without stuttering problems. However, the given tasks, verbal abstractions and the requirements should correspond to the learner's age and psychosocial development.

*Peer's influence* is also related to the development of psychosocial problems in persons who stutter in both ways. In particular, the peer rejection in childhood and the following mobbing provoke numerous psychological problems – they are the contributing factors for the continuity of the disorders over the time, leading to low self-esteem, psychological problems, etc. In adolescence, the persons with disability may encounter the employer's discrimination, problems to make family, etc. (Shapiro, 1999).

The effectiveness of disability treatment is also influenced by the *relations of the child with the parents*, their views on raising the child, economical status, housing challenges, welcoming and transition support from the kindergarten to the school and community life for

stutters and their families, anti-bullying programs, access to specialists and consultants dealing with speech and communicational disorders, multidisciplinary team work on problem solving, psychotherapy, medically related approaches and so on (Conture, 1990).

Conture (1990) has suggested that the parents tend to fall into three nonexclusive groups: the ones expecting perfection in their child's performance, those who have significant inter-parent disagreements over raising the child, and those with a prior family history of stuttering. Many parents feel guilty or worry that others will label them as guilty. Sometimes the influence of extended family members, such as grandparents, uncles, aunts, etc., could positively or negatively influence the process of treatment. That is why each situation should be examined individually and the therapy should be planned accordingly.

Speech modeling (parents control on their own speech with proper frequency, pauses, pronunciation, intonation and etc.), speech opportunities (protection child's own speech, that he/she will have chance to talk without stress or interruption), reactions to stuttering (paying no extra reaction on any signs of stuttering, being friendly and assisted), intervention to reactions of others (parent intervention with siblings, peers, friends and relatives, teachers and others), life improvement (parental help to raise the self-esteem and confidence), active participation in transfer of therapy activity on an out-clinic basis are those activities which the parents should learn and follow. In addition, the effects of environmental manipulation will vary (Guitar, 2006).

The World Health Organization (WHO) indicates that health is affected by a number of environmental factors, such as ecology and sanitation, nutrition, poverty, working conditions, climate, and access to health care. Inequality is also a major cause of poor health, and hence of disability. The environment may be changed to improve health conditions, prevent impairments, and improve outcomes for persons with disabilities. Such changes can be done by legislation, policy changes, capacity building, or technological developments, etc. (World Health Organization [WHO], 2011).

So on a *macrosystem* level, the governments of different countries consider these problems and a range of international documents highlight that disability is a human rights issue. Among others, the list of documents includes the World Program of Action Concerning Disabled People (United Nations [UN], 1982), the Convention on the Rights of the Child

(United Nations Children's Fund [UNICEF], 1989), and the Standard Rules on the Equalization of Opportunities for People with Disabilities (United Nations [UN], 1993).

Moreover, during the time of globalization more and more countries try to follow the recommendations of WHO and to accept and adopt the International Classification of Diseases and Related Health Problems (ICD-10).

## 2.6 Theories about stuttering

According to the International Classification of Diseases and Related Health Problems, also known as ICD-10 (World Health Organization [WHO], 2010), stuttering (stammering) is defined as follows:

*Stuttering is a speech that is characterized by frequent repetition or prolongation of sounds or syllables or words, or by frequent hesitations or pauses that disrupt the rhythmic flow of the speech. It should be classified as a disorder only if its severity is such as to markedly disturb the fluency of speech (WHO, 2010).*

The significance of the definition and the process of its construction are clear because the definition establishes foundation for and generates relevant theories, therapies, and research (Shapiro, 1999). Therefore, this statement confirms our interest to discover knowledge about stuttering in multicultural context, because in different languages and cultures the phenomenon of stuttering can strongly vary.

For better understanding the definition of stuttering, the Western scientists, such as Starkweather (1987), Ham (1990), Shapiro (1999), Guitar (2013) stressed on meaning of *fluency* which plays a key role in this disorder and connected it with terms 'disfluency' and 'dysfluency'. According to Wingate (1984), the "dys" and "dis" prefixes are quite different. The 'dys' prefix implies abnormality, such that a word beginning with 'dys' denotes an abnormal condition. By contrast, the 'dis' prefix denotes separation, negation, or signals a contrast with the morpheme that follows it. Wingate (1984) cites three of four dictionary references to support his view. It must be pointed out, however, that not all dictionaries, such as the Oxford Unabridged Dictionary, show this distinction. Some hold that the 'dys' prefix in the field of speech-language therapy implies an underlying, organic impairment whereas the 'dis' prefix implies deviant behavior. Accepting the somewhat controversial assumption that

the prefixes are different, *dysfluency* (or ‘abnormal *fluency*’) is essentially synonymous with *stuttering*. However, most recent texts still prefer the term *stuttering*. As noted, *dysfluency* is frequently used interchangeably with *disfluency*, although professional consensus suggests that the two terms are not necessarily synonymous (Wingate, 1984).

It is well known that most people had experience with speech fluency at least once in their life (for example in stressful situation or during making speech). And vice versa, the people who are considered as stutterers can produce speech with normal fluency in the situation comfortable for them (Conture, 1990). These observations emphasize that stuttering is not a static condition but rather a behavioral feature that may characteristically vary with time and place of communication.

According to Shapiro (1999), the location of stuttering is influenced by language and its nature and origin. For example, stuttering is more likely to occur at clause boundaries, on longer and less frequently used words, and within the context of great information load. Stuttering and language affect each other. The point is that the speech fluency and language fluency are different, and that the people who stutter can demonstrate normal language fluency (Ham, 1990). For example, person can stutter severely but still have and use large and productive vocabulary (semantic fluency), the ability to construct complex sentences (syntactic fluency), knowledge of what sentences are appropriate (pragmatic fluency), and knowledge of how the sounds are produced and combined in meaningful sentences (phonological fluency) (Shapiro, 1999).

Bloodstein (1995) summarized that traditionally there have been three alternative types of definitions. The first is that stuttering is what whatever observers or conversational partners hear or see to be. Second is a standard, or dictionary, definition that stuttering is repetition or prolongation of sounds, syllables, or words, or by frequent hesitations or pauses that disrupt the rhythmic flow of speech. The third is the perceptual definition of people who stutter, meaning that the stuttering is whatever people who stutter feel their own stuttering to be (Bloodstein, 1995).

The definitions of Soviet and post-Soviet Ukrainian scientists are more general. For example, the scientists Khvatsev (1996) and Volkova (2011) stressed on meaning of muscle convulsion of speech apparatus, which disturbed the speech flow and plays a key role in this disorder. The main definition of stuttering that used in teaching books for speech language therapists is

as follows: “A violation of tempo and rhythmic organization of speech due to the muscle convulsion of speech apparatus” (Volkova, 2011, p. 278).

Khvatsev (1996) added that stuttering is a functional speech disorder externally expressed in muscle convulsion (of lips, tongue, soft palate, larynx, chest muscles, diaphragm, and abdominal muscles). Therefore, speech is interrupted due to a delay on some sounds and words. He also emphasized that stuttering is often associated with an imperfect rhythm of the whole body or its parts (e.g., arms, legs and a head).

The other definitions include *logonevros*, *balbuties*, *dysphemia*, *spasmophemie*, *lalonewros*. They pay attention toward pronunciation, to an emotional or psychological basis, and to respiratory failure (Volkova & Shakhovskaya, 1998).

As we can see, there is no universally accepted definition of stuttering.

Each definition represents the author’s own description of salient characteristics and a set of assumptions about its nature, cause, or both. The definitions must provide the criteria by which the similarly appearing items can be included or excluded on the basis of differentiation by characteristics of the definition (Ham, 1990). Therefore, this understanding of differences in definition of stuttering in different countries with different languages gave the basis for the present research.

Different views on understanding the stuttering, how it begins and develops, its etiology and treatment has theoretical explanation. In addition, they are provided by different specialists, such as speech language therapists, physicians, clinicians, therapists, educators, and by the persons who stutter themselves. That is why I found important to consider the theories about stuttering that were developed by the Western and Soviet scientists as well as by the Ukrainian scientists in the post-Soviet period in historical retrospective.

### **Theories of Western researchers**

Among the Western researches, an American scientist Barry Guitar (2006, 2013) introduced several theories about stuttering, as follows:

- 1) Stuttering is a disorder of brain organization.



- Stuttering is caused by the delay in growth and development of the brain left hemisphere, by the anomalous cerebral organization (Geschwind & Galaburda, 1987).
- Stuttering is a disorder of timing (there is inappropriate localization of some speech/language functions in the right hemisphere which results in inability of generating precise timing patterns to produce speech efficiently) (Van Riper, 1982; Kent, 1984).
- There is reduced capacity for internal modeling, i.e. a weakness in making transformations between what the person wants to say (sensory) and the motor movements required to pronounce (motoric) (Peters & Guitar, 1991).
- Stuttering is caused by the language product deficit (Kolk & Postma, 1997).
- Stuttering is caused by the psychological tremor.

2) Theories about influence of developmental and environmental factors.

- The diagenetic theory stating that stuttering was caused, in part, by the parents inappropriately drawing attention to a child's otherwise normal disfluencies (Johnson, 1942).

The theory of capacities and demands. The capacities and demands model has been proposed to account for the heterogeneity of the disorder. In this approach, the speech performance varies depending on the capacity that the individual has for producing fluent speech, and the demands placed upon the person by the speaking situation. Capacity for fluent speech that may be affected by a predisposition to the disorder, auditory processing or motor speech deficits, and cognitive or affective issues.

- Demands may be increased by the internal factors such as lack of confidence or self-esteem or inadequate language skills or external factors such as peer pressure, time pressure, stressful speaking situations, insistence on perfect speech, and the like. In stuttering, the severity of the disorder is seen as likely to increase when demands placed on the person's speech and language system exceed their capacity to deal with these pressures (Ward, 2006).

3) The theory of two stage etiological model (Guitar, 2006).

- 4) The theory of genetic origin (stuttering has been shown to run in families).

David Shapiro (1999) has mentioned the following theories:

- 1) The theory of Bluemel (1932, 1935, 1957) who viewed stuttering as a habit learned as a consequence of conditioning and distinguished two stages of stuttering which are “primary” and “secondary”.
- 2) The theory of Froeschels (1956, 1964) who distinguished tonic (characterized by hard pressure and tension) and clonic (more repetitive and oscillatory repetitions of sounds) types of stuttering.
- 3) The theory of Van Riper (1982) who was a severe stutterer by himself. He added to Bluemel’s two-stage theory a transitional (between the primary and the secondary stages) and a fourth stage.
- 4) The theory of Bloodstein (1995) who added to the theory of stages that developing of stuttering is a continuous and gradual process.
- 5) The theory of anatomic defects (stuttering is caused by an anatomic defect of the oral cavity).
- 6) The theory that stuttering is a medical problem, which requires surgery.
- 7) The theory of articulation/ respiration disorders.
- 8) The theory of psychoneurosis origin. This is a repressed need theory, which is based on psychoanalytical concepts and defines stuttering as a neurotic symptoms rooted deeply in unconscious needs.
- 9) The theory of learned behavior. According to it, the stuttering occurred through the child’s efforts to avoid stuttering and fixing through parent-child verbal interactions.

Richard E. Ham (1990) highlights psychological theories which are divided into two categories where on one side the researches are focused on psychological development of stuttering and the others accept psychological factors as leading possibilities.

According to the psychoanalytical theories, the stuttering is considered as an underlying neurosis, rather than being a primary disorder.

In the pathophysiological theories, an abnormality of physiology (normal function or performance) is responsible for stuttering. Here it is admitted that there are functional (possibly even structural) differences between the brains of people who stutter and those who do not.

A cognitive behavioral model highlights stuttering as a bio-psychosocial crisis (Bloodstein, 1995).

In addition, there are theories that pay attention to linguistic factors in stuttering. Homzie and Lindsay (1984) indicate that the language deficits contribute initially to onset of stuttering and continue to be affecting factors as stuttering develops.

Many researches also estimate the sex differential factor, when more males than females stutter and spontaneous recovery in the females occurred at earlier ages and more quickly (Bloodstein, 1995).

Some researches focus on developmental factors that influence stuttering, such as the physical development (speech motor skills, fine motor skills), cognitive development (learning new skills, mental disabilities), social development (social-emotional stress), speech-language development (grammar, vocabulary, sentence length) (Guitar, 2013).

There are also the environmental factors like stressful speaking models (speech pressures as parents high standards and expectations, etc.), stressful speaking situations (attitude, behaviors, and events that occur at home/educational institutions), and traumatic life events that can also influence or be considered as stuttering causes (Guitar, 2013).

Many persons who stutter have concomitant problems besides stuttering, such as other speech or language development problems, learning disabilities, ADHD, etc., that may contribute to the disorder or indicate a more pervasive underlying etiological factor.

### **Theories of the Soviet and Ukrainian post-Soviet researchers**

Among the Soviet and then the Ukrainian researchers, we would not find such wideness in the definitions and theories on stuttering. There were a few famous researchers whose opinions

were officially accepted and the other researches worked in those directions. Before the beginning of 20<sup>th</sup> century, there were no obstacles between the sharing information in scientific world between the East and the West. So the Russian as well as the Ukrainian scientists were aware of the theories on stuttering from Adler, Delo, Denhardt, Marc Colombat, del'Isère. Their works were also translated into French, German, English and other European languages. Many of them were members of the Western medical societies.

By the beginning of 20<sup>th</sup> century, the diversity of understanding the mechanisms of stuttering could be reduced to three theoretical areas, which were actually used for the next 70 years as a basis for further development of the treatment modalities of stuttering. Such famous soviet scientists as Volkova and Seliverstov (1997) introduced several theories about stuttering as follows:

- 1) I. A. Sikorsky (1889), a Professor of the Kyiv University and a member of the International Society of Experimental Pedagogy, considered stuttering as a violation of the whole speech functional system. According to him, stuttering is cramp-like spasms. The trend has afterwards arisen that stuttering is a spastic coordination neurosis, derived from irritable weakness of speech centers.
- 2) E. Froeschels (1931) proposed that stuttering is a violation of associative psychological problems, and they considered stuttering as associative aphasia. The proponents of this theory were G. D. Netkachev (1913) and A. Florenskaya (1949). G. D. Netkachev one of the first proposed an approach to overcome stuttering from the psychological point of view.
- 3) The theory that stuttering is a subconscious manifestation which develops on the basis of mental trauma or conflicts with the environment. In stuttering, on the one hand, there is wish of the individual to avoid any possibility of contact with others, and on the another hand to cause sympathy of others by means of such a demonstrative suffering.
- 4) The theory that stuttering is based on impairments of physiological character and that the psychological symptoms are secondary.

- 5) The theory that the primary psychological characteristics should be considered as basis of stuttering and that the physiological manifestations are consequences of these psychological defects.
- 6) The theory considering stuttering as a neurosis based on waiting phobia, as obsessive-inferiority, obsessive-compulsive disorder, etc.

By the 1930s and in the following 1950-1960-ies, the mechanisms of stuttering were considered on the basis of Pavlov's teachings on higher nervous activity and, in particular, on the mechanisms of neurosis (Pavlov, 1949). According to this theory, stuttering, like other neuroses, appears due to different reasons causing over tension of excitation and inhibition processes and the formation of pathological reflex (Volkova & Seliverstov, 1997).

The theories about stuttering could also be divided into the following groups:

- 1) The theories on origin of stuttering.

According opinions of the Ukrainian scientists, the causes of stuttering are not yet fully established. It is assumed that the onset of stuttering is caused by a set of genetic and neurological factors. For example, L. M. Belyakova and E. A. Dyakova (1998) suggest that the genetic code of the child might comprise the pathological features of the motor areas, and the certain personality traits (accentuation), which under adverse conditions can lead to stuttering. They also draw attention to the close relationship of stuttering with the left-handedness. In addition, there are indications that stuttering often occurs by reeducation of the left-handed child to right-handed (Belyakova & Dyakova, 1998). In any case, stuttering is accompanied by increased tonus and by appearance of convulsive readiness of the motor speech centers in the brain, including the Brock's center.

There is also a well-founded theory that the stuttering is caused by fright in early age of children. So for example, many stutterers say that a speech defect appeared in early age due to strong fear. This could be an acute psychological trauma inflicted by the domestic or wild animals, by natural disasters, accidents, entertainment, family quarrels, physical injuries or medical procedures (Missulovin, 1997). N. A. Vlasova (1959, 1978) along with an acute psychic traumatization pays also attention to chronic conflict situations that are directly related to high emotional excitability of preschool children. In adults, stuttering can be caused by a concussion; this kind of stuttering can pass away with time.

Some researches focus on that any deviation from the standard language development can lead to an onset of stuttering: early language development with the rapid accumulation of vocabulary; or on the contrary the delay of the psychoverbal development (*alalia*); the general underdevelopment of speech characterized by poor knowledge and understanding of the world, and by small vocabulary; subclinical forms of *dysarthria*, *dyslalia*, *rinolalia* (Volkova & Seliverstov, 1997).

There are also theories that the sustained stuttering in childhood is contributed by the pathological education, by violation of the family roles and of the family functions in general, and by the characteristic features of the stutterer's parents (Volkova & Shakhovskaya, 1998). According to other theories, stuttering often occurs after an infectious disease and can be associated with a diagnosis of diseases in the central nervous system, most commonly cerebral palsy.

V. Shklovsky (1994) suggests contribution of the congenital predisposing factors of stuttering. These include severe neuropsychiatric and infectious diseases of the parents. The illnesses, such as schizophrenia, tuberculosis, syphilis, etc., harmful chemical industrial factors, or elevated radioactive background in many cases may first of all affect the nervous system of the unborn child. Different kinds of trauma, strong emotions, bad living and working conditions of the mother during her pregnancy as well as the birth injuries are harmful for the nervous system of offspring (Shklovsky, 1994).

E. M. Mastjukova (1997) notes that stutterers have various failures of motor activity. The speech has high demands on a finely differentiated motor activity, perfection of which depends on the integrity and maturity of the central nervous system. However, in some stutterers the studies did not reveal organic damages of the brain. At the same time, the stutterers were characterized by such behavior features as increased susceptibility, anxiety, low level of adaptation to the new conditions, which indicates that these individuals had more vulnerable state of the central nervous system than normal (Mastyukova, 1997).

As environmental factors, the Ukrainian scientists consider impairments of sleep and nutrition, lack of awareness of the parents that the child should live and grow up, if possible, under calm conditions. Irritation with loud sounds (TV, radio, tape recorder, cries of adults, etc.), a large crowd of people, stuffiness, etc., have negative impact on the child's nervous system. Prolonged stressful stimuli can cause severe neurotic state that may lead to stuttering.

Among the external causes of stuttering, a certain role is played by the child imitating stuttering adults or peers (Vlasova, 1978).

Highlighting the problem of psychogenic factors that foster appearance of stuttering in children, N. A. Vlasova (1959, 1978) along with an acute psychic traumatization emphasizes the role of chronic conflict situations that are directly related to high emotional excitability of the preschool children. E. L. Pellingier and L. P. Uspenskaya (1995) see a link between the appearance of stuttering and massive intrusion into the daily life of electronic media, video games, etc., that are loading enormous amounts of audio-visual data on immature nervous system of the child.

## 2) The theories on mechanisms of stuttering.

Stuttering is caused by spasms of the vocal apparatus: the tongue, palate, lips, or muscles of larynx. All but the last (the articulation cramps, spasms of the muscles of larynx) are vocal (Khvatsev, 1996).

There are also theories of breathing spasms, in which breathing is disturbed and a feeling of suffocation appears. The mechanism of spasms is associated with the spread of excessive excitation from the motor speech centers in the brain to the adjacent structures, including related motor centers of the cortex and the brain centers responsible for emotions (Volkova & Seliverstov, 1997).

Here it is also necessary to mention the views on stuttering and its causes of the Ukrainian common people. One view is the same as of the official medicine – it explains stuttering as a result of a strong sudden fright in early age of, e.g., attack of the dog (or other animal), aggressive human behavior, thunder, lightning, etc. Another common view is that stuttering is sent by a “whammy” (evil eye) from a bad person.

As we can see, the mentioned theories are different; they are definitely biased and, as a result, generate different approaches for treatment of stuttering. Some of these theories now have only historical interest, some were not fully investigated, and other should be considered with fresh eyes and revised. Because knowledge about stuttering and persons who stutter can affect the treatment procedures, the specialists dealing with this phenomenon should be aware of its nature, etiology, development and the intervention process from the past and present perspectives and, what is also important in our days, in the international frame.

# Chapter 3: Research Design and Methodology

When we speak about the Research, we mean gathering knowledge from the theoretical written or printed sources, as well as directly from the real world, or from *empiria*. Therefore, the aim of this study was collecting and analyzing as much as possible information in a documented form to find the patterns connected to stuttering in two countries. By definition, the documents are anything that served to present a person's thoughts, actions or creations (Gall et al., 2007).

The most suitable **research strategy** that can provide a framework for this study was a *qualitative* one. The qualitative research emphasizes “understanding of the social world through examination and the interpretation of that world by its participants”. Another feature is that “the social properties are outcomes of the interaction between individuals, rather than phenomena” (Bryman, 2004). The purpose of a qualitative inquiry is neither to measure the reality nor to confirm a hypothesis but to study the reality as something alive and not static.

## 3.1 Case study

A case study is a widely used approach of qualitative research that provides opportunity to discover phenomenon of particular interest for the researcher. The case study is an intensive in-depth study of an individual unit (e.g., a person, group, or event) stressing developmental factors in relation to its real life context (Gall et al., 2007).

According Gall et al. (2007), a key strength of the case study method involves using multiple sources and techniques in the data gathering process. Researchers could use the case study method to further study, explore, or describe an object or phenomenon. The researcher who embarks on case study research is usually interested in a specific phenomenon and wishes to understand it completely, not by controlling variables but rather by observing all of the variables and their interacting relationships. The advantages of the case study method are in its applicability to real-life, everyday experience, its facilitation an understanding of complex situations and accessibility through written reports. (Yin, 1993).



That is why, the case study design has been chosen for the present research. Since the study of two countries, Ukraine and Norway, was made, this research should be considered as a two-case study.

The *phenomenon* of this study is perception of the stuttering, which is developed and exists in different settings. The *case* is treatment of stuttering in Ukraine and Norway. The *units of analysis* were approaches used for treatment of stuttering in these two countries.

*Focus/aspects* are the understanding of the stuttering appearance through different theories and the development of approaches for its treatment. The **main goal** of the study was to *generalize* the findings. The **second goal** was to find out why the cases are different, to reveal the general underlying structure, which generates or allows such variation.

The **research method** in this study was a *document analysis*. The data were collected mainly from books on speech therapy (*logopedy*), about stuttering, special needs education and related fields, journal articles, reports, official documents and other sources (e.g., encyclopedias, reviews, etc).

Furthermore, the present study was partly based on the literature used during the training courses for the specialists working with stuttering in high educational institutions. For example, stuttering is an important part of *SPED4200* program at the University of Oslo and a part of course LOGO314 at the University of Bergen in Norway; it is also included in the education process of the speech language therapists and neurologists at the Ukrainian Universities in the main cities, such as Kyiv, Kharkov, Odessa, Kherson, Sloviansk, Berdyansk, Kamianets-Podilskyi.

Among the authors whose works were used in the present study, I can mention B. Guitar, R. McCauley, C. Van Riper, O. Bloodstein, E. Conture, R. Curlee, D. Shapiro, L. Volkova, M. Khvatsev, V. Shklovsky, V. Seliverstov, S. Shakhovskaya, L. Belyakova and others.

Following the suggestions from Yin (1989) and Gall et al. (2007) how to design the case study, the following steps were used to organize and write this research:

- 1) Formulating a Research problem and questions;
- 2) Selecting Cases;
- 3) Determination of data gathering and analysis techniques;

- 4) Preparations for collecting the data and addressing ethical issues;
- 5) Collecting case study data (for each case separately);
- 6) Evaluation and analysis of the data;
- 7) Preparation of the report.

## 3.2 Data sampling

In qualitative research during data sampling, the most important issue is to get access to the data lie in the scope of the researcher's interests. Data sampling was purposefully performed for getting access to the necessary documents. Partially snowball sampling (chain referral sampling) was also used, especially during data sampling for Norway. A specific guidance was received from the Norwegian specialists in speech language therapy where to find an appropriate information source and which document is valuable for the study. The research questions were the criteria for validity of the documents which were reviewed. They were used for purpose to avoid incorrect data to be included into the database.

The certain steps, outlined in Gall et al. (2007), were used and are shown below.

- 1) Identification and selection of the documents. The selected criteria were as follows:
  - Is it authentic (refers to the truthfulness of origins, attributions, commitments, sincerity, devotion, and intentions)?
  - Who is the author? When the document was produced (time frame)? Where this document was produced (place)? To what category does this document belong (law, study, speech, etc.)?
- 2) Determination the relevance of the document to the research.
  - Is it credible (is the author an expert in this field, observer, retailer)?
  - Is it representative (has information about stuttering, its classification, definition, treatment approaches)?

- 3) Consideration of each document for its accessibility, portability, fragility, and confidentiality from an ethical viewpoint.
- 4) Evaluation of each document regarding its validity using internal and external criticism.

In addition, the document summary form was used for the data analysis during the collection process. It provided a brief summary of each examined document with indication of type of the document, its use, its content, and ideas about other documents that should be obtained and studied (Gall et al., 2007). This also helped to prove internal validity of the research.

The data source *triangulation* was chosen to be suitable for data sampling, when the researcher looks for the data that remain the same in different context. Triangulation is a powerful technique that facilitates data validation through cross-verification from more than two sources (Bogdan & Biklen 2006). In particular, it refers to the application and combination of several research methodologies during the study of the same phenomenon. The purpose of triangulation in qualitative research is to increase the credibility and validity of the results.

For each country, a database was generated which included the information about stuttering. For better visualization and analysis, the received data were classified and put into the Tables.

### 3.3 Analysis

Analysis of the data was done through search of common and different in the collected **patterns**. This was considered as the major research objective. The found similarities and differences are presented. The documents in four different languages (Ukrainian, Norwegian, English and Russian) were analyzed during the proposed research and the author of present research is a speech therapist with working experience. The multilingual nature of the study was considered as a complication for using interpretational and structural analyses, since these kinds of analysis involved explicit procedures that were performed in somewhat prescribed sequence (Gall et al., 2007). Therefore, in the author's mind the **reflective type of analysis** was found to be the most suitable. It is a process when the researcher primarily relies on intuition and judgment in order to portray or evaluate the phenomenon studied by using the concept of **interpretive zone**. According to Wasser and Bresler (1996), "*in the interpretive*

*zone, researchers bring together their different kinds of knowledge, experience, and beliefs to forge new meanings through the process of the joint inquiry in which they are engaged”* (p. 13).

However, the guidelines of *hermeneutics* were also generally applicable. In this case, the researcher starts from the preexisting knowledge and a certain superficial overview picture before digging into the details and their interpretation (Gall et al., 2007). The detailed analysis of the relevant literature provided me with better understanding of stuttering and its treatment. Afterwards, the textual analysis involving *mediation* between the frames of reference of the researcher and of the text author was used. “The aim of this dialogue is to move within the “hermeneutic circle” in which we comprehend a text by understanding the frame of the reference from which it was produced, and appreciate that frame of reference by understanding the text. The researcher’s own frame of reference becomes the springboard from which the circle is entered, and so the circle reaches back to encompass the dialogue between the researcher and the text” (Scott, 1990, p. 31). As this process continues, certain features of the phenomenon are likely to become visualized. Then the researcher by himself should develop understanding of these features and their relations to each other. The analysis should account as much as possible for the phenomenon being studied (Gall et al., 2007).

For enhancing internal validity of this research and bringing together different sources of information to one interpretation, the theory triangulation (multiple theories) was used to explain the data (Johnson, 1997; Newman & Benz, 1998).

### **3.4 Validity**

There is certain skepticism on the case study approach that the study of a small number of cases can offer no grounds for establishing reliability or generality of findings and that validity in qualitative research is under the question. Newman and Benz (1998) argue that the in-depth description of studied phenomenon is sufficient for the researcher to perform generalization to other readers. In addition, they identified external and internal validity to what the attention should be paid in qualitative research.

The external validity is defined as the extent to which the findings of a study may be generalized to another setting or another group. Within the qualitative research, the external validity is replaced by the concept of transferability. Transferability is the ability of research

results to transfer to situations with similar parameters, populations and characteristics (Lincoln & Gubba, 1985).

According Newman and Benz (1998), in order to reach the external validity of this research, the author was trying as much as possible to provide an in-depth description of the studied phenomenon. This was done to give the opportunity for the reader or other researcher(s) to be able generalizing the findings. In addition, the aim of the author was describing in detail how the sampling was done and the findings were received in order to raise trustfulness to other readers. If the readers would be interested to replicate the current research the author made her best to make it possible.

According Johnson (1997) and Newman & Benz (1998), for enhancing internal validity of this research and bringing together different sources of information to one interpretation I used the following strategies, such as data triangulation, when different sources of data were investigated for understanding the phenomenon as well as theory triangulation when different theories were used to explain the data.

*Reflexivity* was used to critically look on conclusions that were made about the data and to detect the potential own bias (Newman & Benz, 1998).

In addition, such strategy as *peer review* I found to be useful. I discussed the interpretation and conclusions of the findings with the peer master student who was not involved in the study and could be critical and challenge what I wrote. This gave me an opportunity to pay more attention to details that were considered by me as less important and to describe them in more detail.

*Memos, document summary* form were useful for implementing such strategy as *audit trial*. The collected data were organized in chronological order and it was always possible to follow the history of the research from its beginning and, if necessary, to re-read and re-check the data (Gall et al., 2007).

As for *usefulness*, in my opinion, this study will be interesting for the specialists who deal with stuttering as the disorder, for educators (teachers, kindergarten leaders) and also for people who stutter themselves and for their families. In addition, this research shows the availability of necessary literature for treatment stuttering in two countries. It provides the basis for future research with the use such methods as survey, interview and observation to

investigate how theories and different treatment programmes are used by specialists during their work with persons who stutter. This will give the more “comprehensive picture” how the treatment of stuttering is performed in Norway and Ukraine.

### **3.5 Ethical issues**

The ethical issues are present in any kind of research. The research process generates tensions between the research aims to make generalizations for the good of others, and the rights of participants to maintain privacy (Orb et al., 2000). Research projects in the field of special needs education often deal with people who are already in a vulnerable situation and, therefore, the researcher should be careful both with how to collect information and how the results should be presented.

Ethics used for doing good and avoiding harm. Harm can be prevented or reduced through the application of the appropriate ethical principles. The National Research Ethics Committee for Social Sciences and Humanities has set ethical guidelines for research to be conducted (Norwegian Committee on Research Ethics, 2009).

The aim of this study was also to truthfully portray the etic perspective of the author as a researcher as well as an emic perspective of the research participants (Field & Morse, 1992). The intention was to listen the voices of participants – the authors of the studied document sources. According to Field and Morse (1992), the acceptance of this statement means that the researcher recognizes that the participants are autonomous people who share information willingly and I need to respect other researchers in this area. Moreover, as a researcher I need to be aware of that my personal attitude could affect the data interpretation. In addition, each document that was used for carrying out the project was needed to be considered from the ethical point of view. A balanced research relationship supports disclosure, trust, and awareness of potential ethical issues (Orb et al., 2000).

### **3.6 Research limitations**

The limitations of the study are those characteristics of design or methodology that affected or influenced the application or interpretation of the study results. They are the constraints on generalizability and utility of findings that result from the ways of choosing the study design and/or from the method used to establish internal and external validity (Brutus et al., 2013).

Although this research was carefully prepared, the following limitations should be reported:

**Short time period** – according to the author's opinion, the time period of six months is insufficient for performing comprehensive document analyses, since the used research method involves search, selecting, reading and analyzing plenty of written material. In addition, some of the documents were difficult to get hold on and this process was time consuming.

**Use of documents in four different languages**– the documents in four different languages (Ukrainian, Norwegian, English and Russian) were analyzed during the conducted study. This turned out due to the specific features of the chosen research topic and due to the historical and political circumstances that led to the multilingual nature of the study. Documents in the Russian and Ukrainian languages were used because Ukrainian science on the speech and language therapy went out from the former Soviet Union where the official language was Russian. In contrast, the Norwegian scientists used in their works the legacy and achievements from the English speaking countries, such as USA, Great Britain and Australia. In addition, the author is not fluent in Norwegian; therefore, available English translations of the original Norwegian works were used when possible.

**Researcher biases and own experience** – the author of the present research is speech and language therapist by education with working experience in Ukraine. In author's opinion, her Ukrainian experience provided some personal bias during preparation of the present work, although the attempts to avoid this influence were made.

**Selection of research method** – in the author's opinion, using only the document analysis would limit her in collecting the data for this research and would represent mostly the theoretical overview. However, this provides a good basis and opens the prospects for future research on how the theories about approaches of stuttering treatment are utilized in real life settings by the speech and language therapists in Norway and in Ukraine. This could be done in future, for example, by using the, such as surveys, interviews, observations, etc.

# Chapter 4: Data Analyses and Findings

The stuttering was known from the ancient times; the ancient Greek historian Herodotus (484-424 B.C.) was first who recorded the treatment of stuttering. However, only in early decades of the 20<sup>th</sup> century stuttering therapy finally became the scope of specialized therapists.

Before that, the speech and language therapy did not exist as a profession; it was a responsibility of philosophers and physicians, doctors, surgeons, members of the family persons who stutter, teachers, etc. Therefore, the theories about cause and mechanism of stuttering were presented in Chapter 2 of this thesis, as proposed by the Western and Soviet scientists as well as by the post-soviet scientists.

As shown in Figure 1, the theory(s) about stuttering define(s) its definition; the definition in its turn determines classification and the ways of stuttering assessment, which determine its treatment. Down the line, the treatment approaches are directed on a person/child who is considered as having stuttering. The treated individual also provides a feedback that leads to adjustment/modification of the treatment (Figure 1).

In this Chapter, the definition and classification of stuttering will be presented, as well as the ways of its assessment and the approaches for its treatment in Norway and Ukraine will be discussed.

## 4.1 Stuttering in Norway

In Norway, the number of persons who stutter is approximately 40,000 or around 0.8% of the total Norwegian population (Norsk Interesseforening for Stamme [NIFS], 2013a). As I have mentioned earlier, only in early decades of the 20<sup>th</sup> century stuttering therapy finally became the scope of the specialized therapists. An American speech language therapist Charles Van Riper (1905-1994) was known as one of the first therapists in the field of speech disorders who made important contribution to the development and elaboration of the stuttering therapy in Western countries. His works had also significant influence on development of stuttering treatment in Norway as a Western country. Among the modern scientists, Barry Guitar, Rebecca McCauley (USA), Lena Rustin, Willie Botteril and other researches from *Michael Palin* center (England) and *Lidcombe* program (Australia) are known.



In Norway, it is mainly the speech language therapists who provide direct assistance to people with stuttering. The treatment of adolescents and adults is carried out in the form of direct assistance, either individual and/or in a group. The speech language therapist facilitates a targeted analysis and processing of general symptoms. One uses different approaches, both in terms of actual speech, the emotional and the rational. Often this is a lifelong process. Helping is an important issue. If necessary, other specialists and supportive persons are involved in this collaborative process (Norsk Helseinformatikk [NHI], 2011).

*Bredtvet* Resource Center is a Norwegian national resource center for special education, representing interdisciplinary expertise within the field of speech, language and communication disorders (Statped, 2011).

The specialists from *Rikshospitalet* University Hospital and from the University of Oslo argued for closer interdisciplinary collaboration between different specialists and that more research can contribute to an increased understanding of stuttering and its treatment (Henriksen et al., 2007).

In addition, Norway has the *Norsk Interesseforening for Stamme* (NIFS), the national organization for persons with stuttering and cluttering and for others who are interested in this (NIFS, 2013b).

#### **4.1.1 Definition and classification**

In Norway, a definition from ICD-10 (The International Classification of Diseases) is used for stuttering determination (Helsedirektoratet, 2011). For better understanding the phenomenon of stuttering, terminology of Guitar (2013) is found to be suitable, as follows:

*Stuttering is characterized by an abnormally high frequency and/or duration of stoppages in the forward flow of speech. These stoppages usually take the form of (a) repetitions of sounds, syllables, or one-syllable words, (b) prolongations of sounds, or (c) “blockages” or “blocks” of airflow and/or voicing in speech* (Guitar, 2013, p. 7).

In ICD-10, we can also find the definition of cluttering as a related disorder of fluency:

*A rapid rate of speech with breakdown in fluency, but no repetitions or hesitations, of a severity to give rise to diminished speech intelligibility. Speech is erratic and*

*dysrhythmic, with rapid jerky spurts that usually involve faulty phrasing patterns*  
(WHO, 2010).

Differentiation of stuttering and cluttering can cause sometimes problems. Quite often, cluttering occurs as a single symptom or in combination with stuttering (Ward, 2006). According to data from the University of Rochester Medical Center (2013), stuttering can be classified according to the severity of the condition and the stage when the problem developed:

- **Developmental Stuttering** – This is the most common form of stuttering. It occurs in children as they develop their speech and language capabilities when the need to express themselves is greater than their verbal ability. This type of stuttering is usually outgrown. However, approximately 20% of children will not outgrow stuttering and can potentially benefit from early intervention.
- **Neurogenic Stuttering** – This common type of stuttering occurs when the brain is unable to coordinate all different components of the speech mechanism, including the nerves and muscles. Neurogenic stuttering may also occur following a stroke or brain injury.
- **Psychogenic Stuttering** – It is believed that this kind of stuttering originates in the brain region that directs thoughts and reasoning; but rarely it may affect people with mental illness or those who experienced extreme psychological stress or depression.

Guitar (2006, 2013) suggested classifying stuttering according to a two-stage etiological model:

- **Primary stuttering** – involves repetitions and prolongations as first signs of stuttering and results due to dyssynchrony at some level of the speech and language development process.
- **Secondary stuttering** – which involves the tension, struggle, escape and avoidance behaviors as a result of a separate constitutional factor, such as a reactive temperament that triggers a defense response and makes the person to be more emotionally conditional.

In addition, Guitar (2006, 2013) designated four types of stuttering based on the progressive stages of this disorder development, such as:

- **Borderline stuttering** – exhibition more than two disfluencies per one hundred words. It is also characterized by part-word repetitions and single-syllable whole-word repetitions. More than two repetitions may occur per instance, but the disfluencies at this level remain loose and relaxed. Secondary behaviors not observed and person has little awareness and concern about disorder.
- **Beginning stuttering** – characterized by the presence of tension and “hurry” in the stuttering, as well as the emergence of prolongations. The repetitions may be rapid and abrupt, and pitch and loudness rise may be observed during the repetitions and prolongations. The facial tension and difficulty in initiating airflow or voicing may be displayed. Appearance of secondary behaviors such as nodding the head or blinking eyes in an attempt to terminate the stuttering. Starts beginning of showing signs of awareness of the stuttering and even person can be quite frustrated by it this. All this factors lead to continue progression of the disorder.
- **Intermediate stuttering** – to the above mentioned characteristics of beginning stuttering (tense, abrupt multiple part-word repetitions, prolongations) are added escape and avoidance behaviors (of words and situations). Feelings of fear before stuttering, embarrassment during stuttering and shame afterwards are also emerged.
- **Advanced stuttering** – could be described with long and tense blocks, some repetitions and prolongations. Pattern of escape and avoidance behaviors become complex, appears scanning (thinking ahead to identify potentially difficult or feared words or sounds). Feelings and attitudes such as fear, embarrassment, frustration and shame become more extensive. Also could be admitted negative self-concept as a person who stutters (negative self-talk) and as underlying processes- negative cognitive learning.

Furthermore, stuttering should be differentiated from other disorders than may contain stuttering-like symptoms, such as:

- *Asperger's syndrome* (an autism spectrum disorder that is characterized by significant difficulties in social interaction, alongside restricted and repetitive patterns of behavior and interests);
- *Parkinson's speech* (a degenerative disorder of the central nervous system);
- *Essential tremor* (a progressive neurological disorder of which the most recognizable feature is a kinetic tremor of the arms or hands that is apparent during voluntary movements);
- *Palilalia* (a speech disorder characterized by the involuntary repetition of syllables, words, or phrases);
- *Spasmodic dysphonia* (a voice disorder characterized by involuntary movements or spasms of one or more muscles of the larynx, such as vocal folds or voice box, in speech process);
- *Selective mutism* (a psychiatric disorder whereas a person who is normally capable of speaking is unable to speak in certain situations or to specific people);
- *Social anxiety* (a wariness of strangers and social apprehension or anxiety when encountering new, strange, or socially threatening situations).

It is necessary to admit that nowadays the Western scientists find that the mentioned definitions of stuttering and cluttering according ICD-10 is insufficient; they raise the question about revising and expanding it by adding at least psychogenic stuttering (Binder et al., 2012).

#### **4.1.2 Assessment of stuttering**

Assessment of stuttering is a broad and important field; it needs more space and description that could cover this research. However, I find very important to mention it here.

In Norway, it is mainly the speech language therapists who provide assessment and treatment of stuttering (NHI, 2011). However, according to the Norwegian healthcare system and the Educational system, stuttering can also be assessed by the practical doctor of medicine (*leger*), or kindergarten/school (preferably with the participation of parents) who then

forwards the child/person to a specialist as well as to the Pedagogical Psychological Counseling Service (PPS or PPT) which is responsible for all individuals with special needs. The doctor of medicine (*leger*) is also supposed to judge whether the medical condition restricts the person's 'functional ability' (*funksjonsevne*) and may lead to impairment (Magnussen, 2009).

Flynn (1978), Conture (1990), Shapiro (1999), Guitar (2006, 2013) suggested and described the way and techniques of stuttering assessment and evaluation. However, each specialist chooses the most suitable method of treatment by himself. The procedures of stuttering assessment are slightly different depending on age of the person who stutter but in most cases should include (1) case history/ intake form; (2) interview of the person or/and parents or other relatives; (3) speech-language sampling; (4) assessing frequency (percentage of stuttered syllables); (5) analysis of academic abilities, such as cognitive tests, test for attention, reading abilities, etc.; (6) behavioral patterns(Stuttering Severity Instrument (SSI)); (7) other additional tests.

In Norway, for assessment and treatment of stuttering the technical support is also used. Among others, video recording, audio recording, computers and special computer programs, digital counters, etc., are important. Interviewing is another important component of the stuttering assessment. The interview involves a structured conversation between the specialist and a person with stuttering (and his/her associates). The interview procedure also include the family history, assessing communicative and relative behaviors, fluency of speech, types of disfluency, frequency of stuttering, duration of the fluency, number of variety of associated behaviors, articulation, expressive/receptive language, voice, abilities of hearing and reading, psychosocial adjustment.

Post-assessment procedures include speech analysis, identifying type of speech disfluency, severity of stuttering, describing other speech and non-speech factors (secondary characteristics), related behaviors and other (Curlee, 1998). All this needs to be investigated for possibility to make the proper diagnosis and to plan and prepare the adequate therapy.

### **4.1.3 Approaches for treatment of stuttering**

For many years, the speech and language therapists were taught that the children who stutter should not receive therapy of stuttering because this would probably exaggerate the problem.

Instead, indirect therapy as parent counseling and environmental manipulation had to be used (Ham, 1990).

Contemporary research demonstrated that stuttering could be best managed in childhood, because children usually respond faster to treatment, become more fluent, and maintain their improvements longer than do most adults. That is why early identification and treatment of stuttering is the most efficient and effective strategy for preventing it to become chronic. However, despite of using different treatment strategies around 20-25% of children will continue to stutter. If stuttering persists past puberty, it may become a lifelong disability, significantly restricting the educational, vocational, and personal-social activities of some adults (Curlee, 1998).

Thus, the main modern criteria that divide treatment of stuttering on stages are age-dependent. There are existing different treatment strategies for preschool children, for school-age children, for adolescents and adults. They also use different approaches suitable for age development. According to Shapiro (1999), Bloodstein (1995), Guitar (2006, 2013) the treatment has the following goals:

- Treatment of preschool children – identification and preventing further development of stuttering through environmental modification, indirect and/or direct speech-language modification. The most important role is here played by the parents and other family members.
- Treatment of school-age children – developing spontaneous or controlled fluency, establishing or maintaining positive feelings about the communication experience and oneself as a communicator. In this case, besides the family influence of teachers, other school personnel and peers is important.
- Treatment for adolescents, adults, senior adults – developing spontaneous or controlled fluency, establishing and maintaining positive feelings about the communication experience and oneself as a communicator. In spite of that, the goals here are similar as to the treatment for the school-age children; it is harder to achieve the positive outcome on this stage. Since the persons who stutter throughout their life often develop their own system of accommodating their life and communication needs

(they have habituated attitudes, speech behaviors, emotions, beliefs relating to stuttering, etc.), it makes a great impact on treatment process.

So after pre-assessment, assessment and post-assessment procedures concerning designation and evaluation of type and severity of stuttering the speech and language therapists plan to initiate the therapy. Let us look close to some treatment approaches of stuttering implemented in Norway.

In 1980, the *Lidcombe* program from Australia appeared as a successful approach and it was taken into consideration in Norway as an “Australian approach” for stuttering treatment in preschool children. This treatment is focused on children’s speech but not on family relationships, parenting styles, or temperaments. During the weekly visits to the speech and language pathologist, the parents learn how to perform the treatment and measure the children’s stuttering severity. The clinician also makes his own monitoring. The program is conducted in two stages, the final aim of which is to receive responses of either stutter-free speech or unambiguous stuttering without any further instructions from the therapist based on self-evaluation of the stutter-free speech and self-correction of stuttering (Onslow, 2003). According to Guitar & McCauley (2010), the *Lidcombe* program could also be adopted for the school-age children with stuttering. Here the goals and expectations are more varied, since with the age the symptoms of stuttering are harder to eliminate. In addition, the role of teachers, siblings, peers become more substantial. Although the *Lidcombe* program was designed for young children, it has also been used with success for the adolescents (Onslow, 2003).

In Norway, interest was also raised about the work and used treatment approaches for the preschool children at the *Michael Palin* Centre for Stammering Children in Great Britain (Action for Stammering Children, 2013). The Palin’s Parent–Child Interaction (Palin PCI) strategy is a therapy program for children up to 7 years of age that uses play-based sessions with parent–child pairs, video feedback and facilitated discussions to help parents supporting and increasing their child’s natural fluency (Guitar & McCauley, 2010). The main focus of this approach is the child with his/her individual needs. The goal is to facilitate child’s natural fluency in his/her usual environment by building and improving parent’s knowledge about what helps fluency (through use video feedbacks, home work sheets, questionnaires, discussions with the therapists, assignments, focusing on positive changes, supporting child’s communication needs). In this approach, the role of the therapist is to serve as a facilitator

rather than an instructor. During the therapy process, the families attend six clinic sessions and then continue the program at home for the next 6 weeks (Consolidation Period) under supervision of the therapist who provides the homework sheets, letters, conversation on telephone, etc. Afterwards, the end part of the therapy includes the Monitoring Only stage (at least one year after the active therapy) (Guitar & McCauley, 2010).

In addition, a wide range of approaches exist the older children and the adolescents who stutter. These approaches are more comprehensive and time consuming, because the longer person suffers from this disorder the more integrated the stuttering patterns are, they also become more connected to the behavior and to the negative emotions. Therefore, it becomes harder to get rid of them (Guitar & McCauley, 2010). The mentioned approaches are described below.

### **Fluency shaping therapy**

There is in use in Norway, the fluency shaping therapy (also known as “smooth speech”, “prolonged speech”, or “connected speech”) has as a main goal training the persons who stutter to speak fluently by controlling their breathing, phonation, and articulation (lips, jaw, and tongue). The therapy starts with the training how to stretch vowels and consonants, then continued with the work on relaxed, diaphragmatic breathing, then includes working on phonation (vocal fold awareness and control), and finally with the work on relaxed articulation (skill to be able control and relax speech muscles of lips, jaw, and tongue) (Peters & Guitar, 1991). The outcome of this therapy is the speech that at the beginning sounds “weird” (very slow, monotonic, but enough fluent). Because of this treatment, stuttering often faces the criticism for lack of so-called “speech naturalism”. However, when the persons master the received skills their speaking rate and intonation become gradually increased and the stutterer’s speech gets sounding normal and the person speaks fluently not only under the artificial conditions (office of the speech language therapist, clinic, etc.) but also in his/her real life (Peters & Guitar, 1991).

According to Peters and Guitar (1991), this therapy is more suitable for persons who demonstrate a positive self-image as communicators, feels accepted by the family and friends despite of their stuttering. The indications for this treatment are when the person (1) is not shy of his/her stuttering; (2) does not avoid speaking; (3) feels positive about him(her)self as a communicator (Shapiro, 1999).



## **Stuttering modification therapy**

The stuttering modification therapy (also known as a “block modification therapy”) was first proposed in 1973 by an American speech language therapist Charles Van Riper. The goal of the stuttering modification therapy is not to eliminate stuttering but to modify it that stuttering becomes less severe and also to reduce the person’s own fear of stuttering, and to eliminate his/her stuttering-associated behavior. The rationale is that since the fear and anxiety cause increased stuttering, taking the situation easier and with less fear would lead to avoidance or at least lowering the level of stuttering. The stuttering modification therapy consists of four phases:

- Identification (identifying and then awareness of the behaviors, feelings and attitudes that characterize person’s own stuttering);
- Desensitization (confrontation or acceptance of own stuttering; open demonstration of stuttering to other people; blocking core behaviors connected with stuttering and become tolerant to them; voluntary stuttering);
- Modification (learning “easy stuttering” through stops and pauses on words where appears stuttering and with repetition afterwards this words as much as possible fluently; with the mastering this skill person who stutter become able to be ahead aware of the words where stuttering can appear);
- Stabilization (mastering received skills; being own speech language therapists; change of self-concept from being a person who stutters to being a person who speaks fluently most of the time and only occasionally stutters mildly) (Van Riper, 1982).

However, depending on the individual, this kind of speech therapy may be ineffective. Peters and Guitar (1991) admitted that this approach works with mild as well as with severe stutterers. These scientists also stressed that this therapy is more suitable for the persons who feel poorly about themselves as communicators, and think that others do not accept them. The indications for this treatment are when the person: (1) hides or disguises his stuttering; (2) avoids speaking; (3) perceives personal guilt as a consequence of stuttering; (4) feels poorly about himself as a communicator.

This approach is quite often criticized, since it assumes that the person who stutters might never be able to stop stuttering and to talk fluently but would rather reduce it and be able to control the behavior associated with stuttering (Shapiro, 1999).

### **Complex approach of stuttering treatment**

While both above-described methods encounter some critics and since each person needs the implementation of the most suitable approach, the complex method is used quite often which is in fact an integrated approach of fluency shaping therapy combined with the modification therapy. In most cases, the persons who stutter demonstrate indications for both above-mentioned approaches, therefore, the combination of stuttering modification and fluency shaping approaches is prescribed (Shapiro, 1999).

### **Altered auditory feedback therapy**

Another kind of therapy, which is based on use of technical support, is *altered auditory feedback* (AAF) therapy. Its goal is that the persons who stutter hear their voice differently. During this therapy, usually two techniques are utilized that may be used either alone or in combination. The person who stutters is equipped with audio device that provides delay of the person's voice to his/her ears for a fraction of a second, thus resulting in a so-called Delayed Auditory Feedback (DAF). The second technique is a Frequency Altered Feedback (FAF) when person's voice is adjusted in frequency up or down, from  $\pm 1000$  Hz to 500 Hz (Henriksen et. al., 2007).

In addition, there is an audio device with masking auditory feedback (MAF) – it can provide relief if the person who stutters has silent blocks (blocks in which he/she cannot even make a sound). MAF synthesizes sound (sine wave) that the brain starts to consider that the vocal folds are vibrating. This produces the effect that vocal folds relax and start vibrating in reality.

An alternative altered auditory feedback effect can be produced by speaking in chorus with another person. Critics of this approach is in that with some persons who stutter it shows substantial reductions of stuttering, while others improved only slightly or not at all.

### **The smooth speech with cognitive behavior therapy**

This approach is recommended for the children and young adolescents between 9 and 14. It includes not only learning how to speak fluently but also learning how to control stuttering.

The goal also is to improve the social skills and communicational attitudes. The method includes teaching of muscle relaxation, cognitive techniques (positive self-acceptance, determination of negative feelings and behaviors, etc.). The activities and procedures comprise nine stages. They include assessment of the person's stuttering frequency, anxieties and communication attitudes; speech language therapist teaches person smooth speech using gradually normalized speech rate in conversation; use of video recording; practicing smooth speech at home; transfer of smooth speech skills to everyday situations; with the use of instructions and discussions teaching the person to be responsible for own progress; teaching cognitive behavioral techniques (muscle relaxation, positive self-talk); planning how to deal with relapse. In this kind of therapy, the therapist plays the major role and the family is engaged to support the therapy outcomes for the person who stutters. Treatment can last over a period of one year (Craig, 2010).

### **Support groups and self-help movement**

With existing treatments available and provided only by the specialists, using the support groups and the self-help gains more and more popularity and support in the Western countries from the professionals and among the people who stutter (Guitar & McCauley, 2010). Therefore, it is worthwhile to mention self-help and a group treatment approach known as the **McGuire programme**. This trend is also observed in Norway (McGuire programme, 2013).

An American, who stuttered himself, Dave McGuire founded the *McGuire programme* in 1994. The main idea of the program consists in that the stuttering is caused not only by the physical but also by the emotional factors. This also corresponds with the statements of Van Riper (1982). Therefore, the goal of the method is based on teaching the person who stutters of proper breathing and speaking techniques, as well as working on self-acceptance, controlling own speech and how to deal with own fear of speaking (McGuire, 1994). This program is run not by the speech and language therapists but by the people who stuttered themselves. The stutters follow the course as learners and then become "coachers" for new ones. This program targets both adolescents and adults, and it is based on peer work (McGuire, 1994). The critical outcome of this approach is that the persons who successfully relieve from their stuttering quite often acquire abnormal breathing patterns. Similar to many other approaches, this method works well for some persons but not for all (McNeil, 2000).

In this context, it is necessary to admit that there is in Norway a so-called *Norsk Interesseforening for Stamme* (NIFS). This is a national organization for persons with stuttering and cluttering as well as for others who are interested in these disorders. The Association aims to work on improvement of the situation for people who stutter and people with cluttering (NIFS, 2013b).

### **Diaphragmatic breathing approach**

As it was mentioned above, the persons who stutter quite often encounter the problem of proper breathing. There are some diaphragmatic breathing approaches that are used either separately or in combination. These techniques help persons who stutter train their breathing rhythm and flank movement (Conture & Curlee, 2007).

Following all treatments, it is necessary to mention the great importance of the parents / associates involvement into treatment, as well as of the caregivers and teachers for preschool and schoolchildren. At the same time, the educational, vocational and cultural experience affects the content and process of stuttering treatment for both adolescents and adults.

## **4.2 Stuttering in Ukraine**

The number of persons who stutter in Ukraine is approximately 1.4 million or around 3% of the total Ukrainian population (assessed according to Men'shikova, 1999, and Seliverstov, 2000). For many years, the Soviet Union had its own interpretation, classification, and definitions of diseases and related health problems, as well as their treatment. This had a significant influence on development the stuttering therapy in Ukraine as country within the former Soviet Union. Although the rules of the International Statistical Classification of Diseases *and Related Health Problems*, 10<sup>th</sup> Revision (known as “ICD-10”), were adopted by the Ukrainian law in 1999, Ukraine is still in the process of reorganization to follow the new global trends and faces difficulties in proper implementation and use of the ICD-10 guidelines. Due to a number of reasons, the ICD-10 definitions cannot fit or properly cover “old” diagnoses (Korenev et al., 2009). For example, to translate a definition of the ailment from the term that was previously understood by almost all members of the society to the one according to ICD-10 rules, it is sometimes necessary to use more than one definition from different parts of ICD-10. This is because in many western countries (also in Norway) the health assessment of children does not generally take into account the majority of the

functional abnormalities (resulting from the structural alterations in tissues), but only the organic changes (involving or affecting body physiology or bodily organs). Accordingly, this 'Western approach' leads to a greater numbers of children in the so-called "healthy" group. In contrast, the functional pathology attracts considerable attention in Ukraine. It is believed there that these children require treatment and preventive measures in order to avoid complications and the formation of organic pathology on the level of the functional pathology (Korenev et al., 2009).

Therefore, despite of accepted ICD-10 guidance, many Ukrainian specialists used the non-official definitions and ways of understanding the pathologies that have roots from the former Soviet Union science. In addition, a lot of scientific literature needs to be translated and adopted into the Ukrainian language.

There are the following categories of specialists dealing with stuttering in Ukraine: speech language therapists, neurologists, psychologists and others. It is assumed that the best results from the treatment is possible to achieve if the speech language therapists are working in cooperation with neurologists (Volkova & Seliverstov, 1997).

#### **4.2.1 Definition and classification**

As I mentioned before, understanding of stuttering in Ukraine is based on studies of I. A. Sikorsky (1842-1919), I. P. Pavlov (1849-1936) and L. S. Vygotsky (1896-1934). The main definition of stuttering, as used in the Ukrainian teaching books for speech language therapists, is the following: "*A violation of tempo and rhythmic organization of speech due to muscle convulsion of speech apparatus*" (Volkova, 2011, p. 278).

The examples of other definitions are as *logonevros*, *balbuties*, *dysphemia*, *spasmophemie*, *lalonewros*. *Logonevros* (logophobia) is a kind of phobia to speak on public, neurotic fear to pronounce the words (Volkova & Seliverstov, 1997). *Balbuties* is a kind of incomplete pronunciation. *Dysphemia* is a speech disorder characterized by stammering or stuttering and usually having an emotional or psychological basis. It has sometimes been attributed to an underlying personality disorder. *Spasmophemie* is a hyperventilation syndrome (HVS), also known as a chronic hyperventilation syndrome (CHVS), is a respiratory disorder, psychologically or physiologically based, involving breathing too deeply or too rapidly.

According to V. M. Shklovsky (1994), even the formal definition of stuttering as a pathological process that at the present is neither sufficient nor final. However, the author believed that stuttering is a convulsive dis-coordination speech disorder arising in the process of communication according to the mechanism of the systemic speech-motor neurosis. Therefore, stuttering is clinically represented as primary speech disorders and as secondary psycho-vegetative disorders, the importance of which is usually small in preschool children, but which often become dominant in adults.

Most of the researchers share the view that stuttering is a polymorphic painful condition in which the convulsive speech disorder is just one of the symptoms. Therefore, a person suffering from stuttering should be treated as the patient, and in most cases would need complex treatments (Asatiani et al., 1978).

Speech of the stutterer is accompanied by stumbling, stops (voice tonic spasms), repetitions of individual sounds, syllables and words (clonic spasms). The stutterers introduce into their speech additional words (embolophasia), they substitute the “difficult” words by the “easy” ones (tricks); their speech is accompanied by the motions and movements (nodding, twitching, blinking, rocking). Many stutterers of older age groups have a fear of speaking (logophobia) (Vlasova, 1978; Missulovin, 1997, Belyakova & Dyakova, 1998; Seliverstov, 2000).

### **Classification of stuttering**

Stuttering is classified according to its clinical characteristics. The main important symptom of stuttering is the spasms of the muscles of the vocal apparatus in the form of involuntary contraction of muscles during the speech process or by attempts to start speaking.

Various organs that are involved in the formation of speech sounds are termed as “vocal apparatus”. The vocal apparatus comprises:

1. the respiratory organs, such as lungs, bronchi, and trachea, that produce the air stream needed for formation of sound;
2. the movable speech organs: (1) larynx (vocal box), (2) pharynx, (3) tongue, (4) lips, (5) posterior veil of the palate with the uvula, which participate directly in

sound formation and which are capable of changing the volume and shape of the speech tract and obstructing the passage of exhaled breath in the tract;

3. the fixed organs (teeth, hard palate and nasal cavity) that are involved in speech but do not move (Matusevich, 1948, Zinder, 1960).

The following kinds of muscle spasms of the vocal apparatus and, therefore, types of stuttering are determined:

- I. **Tonic stuttering** – there is a pause in speech or a sound is stretched.

*Tonic spasms* are characterized by sharp tonus increase in several groups of speech muscles that acoustically manifested in prolonged pause in speech or broaching vocalization. In this case, there is a general stiffness of stutterer observed, his face reflects the tension, the mouth is either half-open or shut with tightly closed lips.

- II. **Clonic stuttering** – is characterized by repetition of the certain sounds, syllables or words.

*The clonic spasms* are manifested in multiple rhythmic contractions of the muscles of the vocal apparatus that are accompanied by a repetition of individual sounds, syllables or words.

- III. **Tonic-clonic stuttering** – mixed form.

There is a *mixed* form of stuttering exists, since the *clonic* and *tonic* speech convulsions may be seen in the same stutterer and occur in all parts of the vocal apparatus: breathing, voice and articulation (Vlasova, 1959, 1978; Belyakova & Dyakova, 1998).

More frequently, there are mixed spasms observed in the clinical picture of stuttering, especially with chronic speech defects, such as breathing-articulation, breathing-voice, articulation-voice, etc. In particular, Belyakova and Dyakova (1998) determined the following kinds of spasms:

- *Respiratory spasms* that may be inspiratory, i.e. arising from the inspiratory phase, and expiratory ones, which are characterized by a sudden sharp breath. As a rule, the inspiratory spasms are acoustically hardly seen, while the expiratory seizures are accompanied by strong contraction of the abdominal muscles, the air sharply and

noisy passes through the open glottis, the articulation and vocalization is suspended, and the stutterers have the feeling of a strong compression of the chest and shortness of breath.

- *Spasms of vocal apparatus* which usually occur when attempting to pronounce the vowel. There are three main types of vocal cord cramps: adducted vocal spasm, abducted vocal spasm and vocal tremor or laryngeal spasm.
- *Spasms of articulatory apparatus* that are divided into facial, lingual and of soft palate.

There are significant violations of speech breathing identified in the stutterers. Insufficient breath depth does not provide full pronunciation of the intonation-meaning stretch of the message. The stutterers can talk on the breath or in a phase of the full exhalation.

Speech of the stutterer is usually accompanied by the concomitant motions, which can have violent or tricky character. In a number of persons with the accentuation of personality on anxiety and hypochondria, the tricky motions grow into the motor rituals (Khvatsev, 1996).

Speech of stutterers, especially adults, is often accompanied by autonomic reactions that manifest in change of the skin color, enhanced heart beating, and hyperhidrosis. The experts consider such reactions as the adrenaline sympathetic (Volkova & Shakhovskaya, 1998).

In contrast to the pre-school children, many adult stutterers have *logophobia*. Logophobia includes obsessive anxiety and a fear of speech spasms (Shklovsky, 1994).

The classification of stuttering according to symptoms includes the following:

- I. **Evolutionary** – developing in pre-school children aged 2-6 years. Depending on whether there is an evolutionary basis of stuttering on neurotic or amid signs of organic brain damage, there are the following forms:

*Neurotic form* – occurs as a result of acute or chronic mental trauma at the age of 2-6 years, and is further characterized by undulating course. Sometimes before stuttering, *mutism* appears immediately after an acute trauma endured by the child. These children have relatively early speech and motor development for their age, and in some cases ahead of it. The actual speech convulsive manifestations can be different: more frequently, there are



clonic articulation spasms that are worsening in case of emotional stress, as well as the tonic-clonic spasms in the beginning of the speech. There is also clear the situation-determined enhancement of stuttering that is worsening with emotional stress and fatigue. The personal reaction on the defect is expressed in the form of excitement before the speech or refusal from speech communication. The defects of pronunciation in form of *dyslalia* (violation pronunciation of sounds with normal hearing and intact innervation of articulatory apparatus) also occur, but they are relatively easy to correct (Belyakova & Dyakova, 1998).

In addition to stuttering, other neurotic symptoms are found in children, such as moodiness, fears, mood swings, impressionability, and anxiety. These children hardly get used to the new environment, in particular, to the conditions of the kindergarten. However, in the pre-school age presence of stuttering usually has no noticeable effect on the social behavior of children. Their contacts with peers and adults remain virtually unchanged.

Movements of children with neurotic stuttering are characterized by lack of clarity and organization, uncertainty about the proper playing. There are also some difficulties in precise holding the pose or the tempo disorders. These children can also be inaccurate and fussy when doing small movements. The arbitrary speech and facial movements differ slightly from the norm. However, they have good dynamic coordination, switchable and simultaneous movements, sufficiently developed sense of rhythm, orientation in space, and high trainability in motor skills. The accompanying speech movements are relatively easy to correct (Volkova & Seliverstov, 1997).

*Neurosis-like form* – appears on the background of the organic cerebral insufficiency of the pre-, peri-or postnatal origin. Its signs are found in the form of diffuse neurological symptoms and varying severity of the *cerebrostenic syndrome* (neurological syndrome that is characterized by decreased performance, impaired attention and memory, fatigue, and headaches, strong depletion of the nervous system and various autonomic manifestations). The latter manifests itself in the form of fatigue, exhaustion, irritability, motor dis-inhibition. In some cases, a *psychopathic syndrome* is diagnosed, which is characterized by difficulties in behavior and phenomena of motor dis-inhibition (Belyakova & Dyakova, 1998).

Stuttering occurs at the age of 3-4 years without connection to the psychogenic moments based on the most intense development of phrase speech, and gradually becomes heavier with convulsive manifestations tending to generalize. The speech is getting worse with fatigue.

Stuttering tends to a stable monotonic or progressive course. Early speech and motor development can take place in time or with some retardation. Children with neurosis-like stuttering demonstrate presence of a weak form of *dysarthria* (violation of pronunciation due to the lack of innervation of the vocal apparatus resulting from the lesions of the frontal lobe and subcortical regions of the brain) or pronounced *dyslalia* (Volkova & Seliverstov, 1997).

In some cases, the neurosis-like stuttering arises because of the underdevelopment of speech. The personal reaction to the defect is weak. The terms of verbal communication do not affect the quality of speech.

The movements of children with neurosis-like stuttering demonstrate a variety of impairments. The patients have difficulty with the performance of tests for static and dynamic coordination; there is little development of a sense of rhythm, a violation of the simultaneity of movements. There are also switchable movements, fatigue, exhaustion, lack of trainability in motor skills observed. In some cases, expression, agility and speed of motor response are suffering. There are abnormal movements, *synkineses*, a variety of accompanying speech movements observed. Lack of speech movements in strength, accuracy, volume and switchability are characteristic. In addition, there are behavioral difficulties with small items, as well as changes in the facial motor skills (Seliverstov, 2000).

According to the *course*, the evolutionary stuttering can be classified as:

*Stationary* – characterized by sufficient stability and monotony of the flow of speech defect; stuttering does not change as on the symptom severity and or the clinical picture.

*Progressive* – characterized by a tendency of worsening. All symptoms of the speech defect becomes complicated, and the condition of the stutterer worsens gradually.

*Regressive* – in this case, all symptoms of stuttering disappear gradually. Its severity gradually weakens; fear of speech decreases or disappears, and the accompanying movements go away. Often stuttering resolves spontaneously in childhood under the influence of appropriate logo-corrective actions.

*Relapsing* – there are alternating periods of fluent speech and of stuttering observed.

II. **Mixed form** – a combination of neurotic and neurosis-like forms.

- III. **Symptomatic stuttering** – appearing at different ages as a result of diseases of the central nervous system, such as the traumatic brain injury, epilepsy, encephalitis, reactive states in hysterical personalities, etc. (Belyakova & Dyakova, 1998).

#### **4.2.2 Assessment of stuttering**

In Ukraine, medical examination of the stutterer is performed as a complex survey by a speech therapist, a neurologist and a psychologist, and if necessary, with involvement of other professionals, such as pediatrician, therapist, psychiatrist and otolaryngologist. The patients are free to apply primarily to any of the professionals who if needed can forward the patient to another specialist. However, it is considered that the speech therapists are the most appropriate specialists for treating stuttering and, based on a comprehensive approach, the neurologists and psychotherapists are those experts who can enhance the effect of the treatment performed by the speech therapist. In Ukraine, only the medical and social expert commission is entitled to judge whether the person's medical conditions lead to impairment (Cabinet of Ministers of Ukraine, 2011). This expert commission, as a rule, mainly consists of a clinician, a surgeon, a neuropatologist, a physician-rehabilitologist and a psychologist. However, depending on the condition, the group of participating specialists can vary.

The person examination includes the investigation of the medical history, educational, psychological and medical documentation and the investigation of the stutterer himself. Usually, examination includes three stages: 1) collection of the *anamnestic* data; 2) examination of the state of speech and motor functions; 3) investigation of the personality of the stutterer (Volkova & Seliverstov, 1997).

According to Shklovsky (1994), interviewing is important component of stuttering assessment. The interview involves a structured conversation between the specialist and a patient (and his/her associates). The interview procedure includes analysis of the family history, a medical history from mother's pregnancy, history of general development, features of the motor and speech development.

Examination of the state of speech and motor functions includes: assessment of the communicative and relative behaviors, speech fluency, types and location of speech convulsions, frequency of stuttering, duration of the fluency, number of variety of associated

behaviors, articulation, expressive/receptive language, voice, abilities of hearing and reading, psychosocial adjustment, accompanying motor impairments (Belyakova & Dyakova, 1998).

Information about the speech environment of the child (whether the parents and other relatives are stuttering or speaking too rapidly) is also considered as important. The attention is paid to an issue of raising a child in the family, e.g. to the attitudes of adults, to the help in shaping the right speech, or, conversely, to the almost complete lack of control over the development of the correct pronunciation (Shklovsky, 1994).

In Ukraine, less comprehensive technical support is used for assessment of stuttering. The specialists are mainly using the supportive materials adjusted to the age of stutterer in the forms of pictures, texts, poems, psychological tests (Thematic Apperception Test, Rorschach test, Sacks sentence completion test etc.). As an additional diagnostic means, sometimes magnetic resonance imaging is used.

Post-assessment procedure includes preparation by the specialist of the description of the stutterer's speech condition, so-called "speech status" (Belyakova & Dyakova, 1998).

All mentioned procedures are performed for making the most proper diagnosis and for planning and preparing the most adequate therapy.

### **4.2.3 Approaches for treatment of stuttering**

In Ukraine, it is also believed that the treatment should be initiated as early as possible and be divided on stages according to the age differences. The theories of Vygotsky (1994) about the age crises and the Zone of proximal development influenced this strategy. As it was mentioned above, the complex treatment of stuttering as a psycho-corrective work is established in Ukraine.

#### **Methods of stuttering treatment**

According to the Soviet and then to the Ukrainian scientists, treatment of stuttering is always a direct or indirect action on the speech function, which leads to improvement of the conditions as a result of the compensatory reaction to some form of the corrective feedback, in agreement with the theory of Vygotsky. Because stuttering has a distinct functional, personal and social side, the therapeutic treatment must contain educational and rehabilitative

components. In this case, the relevance and impact of teaching and rehabilitation components are based on the individual patient's ability to accept correction. Therefore, treatment of stuttering is a complex and contradictory process, not always dependent on the quality of the used method (Volkova & Seliverstov, 1997).

There are several ways for treatment stuttering, but unfortunately, none of them guarantees 100% recovery. All methods can somehow be divided into ones considering stuttering as a speech impediment or as a *logoneurosis* (Belyakova & Dyakova, 1998).

The former approaches recommend "speaking smoothly" or somehow normalizing the *speech*. The latter approaches are focused on the nervous system, considering stuttering as one of manifestations of the *neuroticism* (Volkova, 2011).

All methods of stuttering treatment can be classified according to the type of methodological approach and by the kind of therapeutic intervention. In general, they can be divided into: Logopedic/Speech language therapy; Psychological; Psychotherapeutic; Medication; Physiotherapeutic; Complex; Alternative medicine.

The organization of therapeutic treatments of stuttering may be outpatient, inpatient, in the family, in the group and individual (Volkova, 2011).

According to the age of the person who stutters, the treatment is divided into the following stages: 1) treatment of preschool children; 2) treatment of school-age children; 3) treatment for adolescents, adults and senior adults (Volkova & Seliverstov, 1997).

In all cases, treatment utilizes usually a complex approach to overcome stuttering; it includes medical and pedagogical impact on every side of psychophysical state of stutterer with involving of different specialists. The range of therapeutic and educational activities includes therapeutic drugs and procedures, physiotherapy, psychotherapy, speech language therapy, rhythmic speech therapy, educational influence. The goal is to improve and strengthen the nervous system and the body as a whole, to help the person who stutters getting rid of the wrong attitude about his/her speech defect, to eliminate or attenuate the speech spasms and the related voice, breathing, speech and motoric disorders, helping social integration and adaptation of the stutterer (Belyakova & Dyakova, 1998).

It is admitted that the design of rehabilitation measures should also take into account the form of stuttering according to its classification.

With *neurotic* form of stuttering, the therapy is recommended to direct on reducing the excitability emotiogenic brain structures that can be achieved with a combination of medication and various psychotherapeutic techniques, such as anti-stress therapy, hypnosis and autogenic training. In this case, the speech therapy sessions are much more efficient.

In case of *neurosis-like* form of stuttering, long remedial-pedagogical actions helping development of the brain regulatory functions (stimulation of attention, memory and other mental processes) and the special medical treatment aimed at the reduction of the effects of early organic brain damage are recommended to the stutterers. The speech therapy sessions should be scheduled for a considerable time (Volkova & Shakhovskaya, 1998).

### **Speech language therapy**

The main objective of the remedial teaching, mainly given by a speech therapist, is the elimination of speech defects (reeducation of wrong speaking) and of psychological characteristics of the stutterer. The speech therapist organizes the mutual medical and pedagogical work of the needed professionals (doctors, teachers, rhythm-teacher, instructor in physical therapy, music teacher, etc.), who are using their own methods and means when working with the stutterer (Volkova & Seliverstov, 1997).

Currently, the speech therapy effect is implemented in two ways: direct and indirect. The direct impact of speech therapy is implemented during the individual and group sessions with a stutterer. These classes include development of the general and speech motor skills, normalization of the rate and rhythm of breathing and speech, enhancing verbal communication and, if needed, the development of auditory attention and phonemic perception, correction of audio pronunciations disorders, expansion of passive and active vocabulary, improving grammatical phrase formation. During the classes, the stutterers lose their psychological behavioral problems; they develop the right attitude to the defect (in schoolchildren and adolescents), the intellectual abilities, the ethical and moral concepts, and form a harmoniously developed personality (Volkova, 2011).

The individual lessons are held when the additional exercises are needed, such as correcting mispronunciation, performing psychological interviews, etc.

Indirect speech therapy represents a system of all secure points for the child and its surrounding. A “special speech regime” is of particular importance in this system.

The special speech regime of preschoolers is carried out with the help of adults who consistently monitor the transition of children from one speech stage to another one. The special speech regime of schoolchildren, adolescents and adults includes the selection of necessary speech exercises, their understanding of the requirements for proper speech, systematic training of the correct speech under different conditions (Seliverstov, 2000).

The work of speech language therapist includes the following stages:

I. *Inhibition of pathological speech-movement stereotypes.* It uses a “special protective” (health sparing) regime on which background the “limited speech mode” or “regime of silence” proceeds. For its realization, the children are offered to play games in silence; for the adolescents and adults who stutter the limited speech mode can occur in the form of complete silence. The optimal duration for the course is 10-14 days; its duration can also be individually adjusted.

Organization of the limited speech mode and of the spared voice mode is most fully represented in the works of V. I. Seliverstov (2000), and of I. G. Vygotskaya (1993). During the speech restrictions, both children and adults who stutter, actively use techniques of non-verbal communication (gestures, facial expressions, pictures). This non-verbal communication is not accompanied by the negative emotional state of the stutterers, which usually occurs in them in the case of verbal exchange, and in adolescents and adults –also by logophobia and autonomic shifts. This helps reduce the emotional stress.

II. *Regulation of emotional state.* Regulation of the emotional state in stutterers is mainly associated with the normalization of muscle tension, since the muscle relaxation leads to the emotional peace. All these observations make a basis of teaching methods for conscious regulation of emotional state by relaxing the tone of the skeletal muscles. For achieving this, the exercises on tension and relaxation of muscles in the arms, legs and the whole body are used, then of the upper body and neck, articulatory apparatus (Seliverstov, 2000).

III. *Development of coordination and rhythmic movements.* It is considered that the stutterers of all age groups have certain peculiarities in the state of motor functions. Therefore, the goals of this part of treatment are as follows:

1. Development of the general, fine and articulation motor skills.
2. Development of sense of tempo-rhythm for the speech-related and unrelated movements.

Considering different states of motor skills in neurotic and neurosis-like stuttering, the duration and intensity of training should be differentiated. In this case, a *logo-rhythmic* approach is used, which includes a variety of special exercises with music aimed at uniting the general and articulation motor skills. The logo-rhythmic approach is beneficial not only for the speech of stutterers but also for their personalities, since different moments of verbal and non-verbal communication are corrected in process of exercises and the verbal abilities are enhanced (Volkova, 2011).

IV. *Formation of rational voice and voice-leading skills.* The stutterers have quite often the local muscle tensions and spasms in the vocal apparatus that degrade the voice quality. There are also dis-phonetic disorders.

The objectives of the work on the voice include: (1) development of strength and dynamic range of voice; (2) development of skills for rational voicing and voice-leading; (3) development of the voice melodic characteristics.

Initial work on the voice can be included in the period of “sparing voice mode” or “silence time”. The work begins with pronunciation of individual vowels, and then the task is expanded to changing the pitch of the voice by using a range of vowel sounds, providing it with intonations of a question, of an answer, of a surprise; transmitting to the voice the different emotional states of joy, sorrow, etc. Afterwards, the work on the voice continues with the materials of automated series, words, phrases and sentences. Amount of work on the voice and the instructional techniques depend on the age of the stutterer. The younger the child is the more work on the voice should follow the principle of imitation (Buyanov, 1989).

V. *Formation of speech breathing.* One of the common features of stuttering is a disorder of speech breathing. The establishment of speech breathing involves the following steps: (1) expansion of the physiological capacity of the breathing apparatus (setting abdominal breathing and formation of a long exhale through the mouth); (2) formation of a long phonic exhalation; (3) organization of the speech exhalation, which has fundamental importance for the formation of fluent speech.



Given that, the stutterers have superficial, not deep enough breathing, whereas the chest muscles (especially the muscles of the upper body) are in a state of excessive tension, training diaphragmatic breathing is also used for correction of stuttering (Belyakova & Dyakova, 1998).

VI. *Prosodic aspects of speech development.* Speech of the stutterers has significant abnormalities in intonation characteristics: intonation incompleteness of the sentence, wrong syntagmatic accent within the phrase, lack of the pause at the end of syntagma and phrases. Normalization of the speech prosodic aspects includes the following tasks: (1) developing skills of tone design for syntagmas and phrases (interrogative, exclamatory, perfect and imperfect); (2) normalizing the process of speech pausing.

During this work, the gestures are actively involved, which in some way help the stutterers sensing different intonations (Belyakova & Dyakova, 1998).

VII. *Development of the planning function of speech.* Work on the development of the planning function of speech usually starts from training the stutterers of pronunciation the sayings about themselves. According to A. Leontiev (2010), internal pronunciation allows selection of the necessary vocabulary and grammar constructs before “turning-on” the sounding speech. This organizes internal speech planning as a whole and helps avoid stuttering when pronouncing aloud (Vlasova, 1978; Leontiev, 2010).

As an additional approach, I could mention a **logopedic massage**, i.e. a combination of the methods of mechanical impact manually or with special logopedic probe on muscles of speech organs such as lips, cheeks, soft palate, tongue and other parts of the body that are associated with providing a human voice activity. The aim of the logopedic massage is activation and normalization of the speech motoric (Dyakova, 2005; Novikova, 2010).

In addition, the speech therapist performs the consultation-methodical work with the parents and teachers, which is focused on providing a suitable environment positively influencing the stuttering child, creating the right attitude to it at home and in a childcare, the organization of the necessary independent work of the child besides the speech therapy sessions.

## **Psychological treatment**

Psychological treatment plays significant role in the formation of personality. Usually this treatment is provided by the speech language therapists in the speech language approaches devoted to correction of the speech fluency. However, the certified psychologists could also be involved in addition (Arutyunyan, 1993).

The purpose of this rehabilitation area is the development of social relationships in the stutterers. For the preschool children, it is important as a preparation for learning and interaction with the teacher and peers to have more active role in schools. In adolescents and adults, it is important for the education of an adequate attitude about themselves, the surrounding people and relationships with them. The work is carried out by means of various psychological, educational and corrective actions (Missulovin, 1997).

The atmosphere surrounding the stutterers should be comfortable and relaxed. The speech of all people around the child must be quiet, calm and measured. For the stuttering preschooler, especially when he/she goes for the first time to kindergarten, it is important to have affectionate tones in the voice and smiling friendly faces. It should as much as possible encourage the child, especially when he/she displays initiative, strictly follows the rules of conduct, etc. A positive emotional climate of the educational institution and of the family increases the child's self-confidence and self-esteem (Mastyukova, 1997).

The speech therapy sessions with the preschool stutterers should also encourage them to reach even minor achievements, thus fostering self-confidence in their abilities (Khvatsev, 1996). The psychological impacts on preschool children who stutter are mainly carried out in gaming activity as the major activity of this age. This kind of activity provides therapeutic effect of the group on each group member, it includes special efforts to address the negative influence of the patients on each other, helping stutterers in establishing their roles in the team and the ability to align themselves with the requirements of the team, that in the long run would lead to their better adaptation to normal life conditions (Pellinger & Uspenskaya, 1995).

## **The psychotherapeutic treatment**

The **psychotherapy** plays a significant role in the complex treatment of stuttering. In this kind of treatment, the speech language therapists dealing with stuttering use the psychotherapeutic methods by themselves, or apply to psychotherapists for consultation, or

work jointly with the psychotherapists who separately provide treatment of stuttering (Arutyunyan, 1993).

Both direct and indirect psychotherapy has therapeutic effect on the stutterers. As indirect psychotherapy, one understands the situation, surrounding nature, a collective, relation of the treating personnel, the regime, games and other.

Direct psychotherapy includes therapeutic influence of wording explanations, persuasion, suggestion, and training. In psychotherapy, there are three basic types of effects: 1) a rational, according to Dubois (1907), or explanatory, according to Bekhterev (1908), psychotherapy; 2) a suggestive therapy, which distinguishes the suggestion in the waking state, in sleep (hypnosis), according to Dubrovsky (1966), and autosuggestion (autogenic training); 3) activating methods of therapy, according to Ivanov-Smolensky (2011).

- 1) The *rational psychotherapy* consists in clarification to the stutterer of the nature of his/her speech pathology, in education of the belief in possibility of getting rid of jerky hesitations.
- 2) *Hypnosis* is a suggestion in the waking state and in a state of hypnotic sleep.

Criticism of hypnosis consists in that it does not always bring the tangible results, not all children and adolescents are susceptible to it. Furthermore, it is unknown what would be the remote consequences of hypnosis on the human being (there may be cases of worsening). Moreover, submission to the will of other person (hypnotist) can cause psychological dependence on another person.

*Autosuggestion* uses a method of autogenic training. It is applied for treatment of various neuroses. Self-hypnosis according to a certain formula can cause a state of rest and muscle relaxation (relaxation state). Further, the goal-oriented autosuggestion sessions are conducted with a focus on correction of particular impaired functions of the organism. In this regard, it is also useful for treatment of stuttering. The stutterer possesses an ability to induce relaxation of the muscles, especially of the face, neck and shoulders, and to regulate the rhythm of breathing, which reduces the intensity of convulsive spasms (Volkova, 2011).

- 3) Among the *activating methods* of psychotherapy, a significant role is played by the functional training (Ivanov-Smolensky, 2011). They represent training of the nerve and mental processes, strengthening activity and the will.

Due to immaturity of the psychics and lack of cognitive concentration in preschool children, hypnotherapy and autogenic training are not applied to them.

Many professionals working with stuttering children use games and exercises that are helping relax the muscles of the arms, forearms, neck, legs and face; they are also using colorful didactic materials, music, rhythm, etc. (Volkova, 2011).

All kinds of stuttering psychotherapy are directed towards elimination of the psychogenic impairments (fear of speech, feeling aggrieved and depressed, obsessive fixation on his/her speech disorder, diverse experiences in this regard, etc.) and towards rebuilding of the social contacts between the stutterer and others that have been changed under the influence of the defective speech; on the formation of controlling himself and his speech, on rebuilding their personal qualities (Shklovsky, 1974, 1994; Arutyunyan, 1993).

### **Physiotherapeutic treatment**

Physiotherapy includes electrophoresis (combination of a weak electrical current and a drug administered with it), magnetic therapy (involving static magnetic fields for health benefits), acupuncture, massage.

In addition, the physical therapy and exercises are used. Helping to build the muscular system, the right exercises improve the work of the most important life organs, such as the heart and the lungs, increase the metabolism, develop coordinated and precise movements, thus helping to get rid of their inhibitions, or, conversely, from dis-inhibition of the movements (Ulashchik & Lukomskiy, 2004).

All these is a prerequisite for better functioning of the speech organs of the stutterer and has a positive influence on the development of correct language skills.

### **Medication**

Treatment with medicines is aimed at normalization of the stutterers' central and autonomic nervous system, speech-motor apparatus, eliminating spasms, removing psychogenic

accretions, relief of anxiety and fear symptoms, depressive symptoms, relief of communicative interactions. Sedative medications, vitamins, immunostimulators (preparations on the basis of valerian, motherwort, aloe; multivitamins and vitamin B; magnesium medications, etc.) are administered. In the presence of spastic forms, antispasmodic medications are used. Tranquilizers are used with caution, in short courses (Volkova, 2011). The role of medication is increased with the age of the stutterer. This is explained by the complications in the clinical picture of stuttering due to the additional functional layers associated with the pubertal shifts and with the increased role of wording as a factor of social communication (Seliverstov, 2000).

Medication as the method of treatment is criticized due to the serious adverse effects of some drugs. They may affect the entire body. When using the anticonvulsants and tranquilizers, concentration is suffering, rapid weight gain may occur, blood pressure is rising; there can also be drowsiness, nausea, allergic reactions, headaches, irritability, and so on (Stager et al., 2005).

### **A complex approach to overcome stuttering**

Based on studies of psychologists, such as I. M. Sechenov and I. P. Pavlov, and on the fact that most researchers noticed the complex systemic character of stuttering as the disorder, which occurrence involves both the biological and the psychological and social reasons, it is recommended to use a *complex approach* to overcome stuttering. The purpose of this method is the formation of the skills of fluent speech, education of the person with stuttering, and including prevention of recurrence and chronicity of stuttering. This method combines the full treatment and learning complex comprising the *therapeutic-recreational* and *correctional-educational* parts (Volkova, 2011).

The therapeutic-recreational activities include generation of environment most suitable for the treatment, organization of the daily routine and a balanced diet, tempering procedures, physical exercises, medication, physiotherapy and psychotherapy. The main objectives of the health-improving activities performed by a physician consist in strengthening and improvement of the nervous system and physical health of the stutterer, treatment and elimination of abnormalities and pathological manifestations in their psychophysical condition (weakening or removal of speech spasms, disorders of the autonomic nervous system, motility disorders and others) (Volkova & Shakhovskaya, 1998).

The *correctional-educational* (speech language therapy) part of the integral approach includes **pedagogical** work, which comprises a system of speech language therapy sessions, educational activities, rhythmic speech therapy, and working with parents (Volkova, 2011).

Speech language therapy is considered as a system of correction and educational activities aimed at the harmonious development of the child's personality and speech with the need to overcome or compensate his disability (Belyakova & Dyakova, 1998). V. I. Seliverstov (2000) particularly emphasized the need for individualization of the corrective actions by the development of objectives and timing for the corrective activities.

### **Alternative medicine**

For treatment of stuttering, there are also popular the approaches of alternative medicine, so-called "*folk*" methods of treatment. They include:

*Herbal medicine* – treatment with decoctions and infusions according to recipes that are available for the common people (Shealy, 1998; Solov'eva, 2005).

*Aromatherapy* – inhalation or baths with essential oils, such as pine, lavender, sage, sandalwood, rose, rosemary, bergamot, geranium, basil, thyme (Tenney, 1997).

*Acupressure* – pressing and kneading on the points of the human body resulting in an impact on the internal organs; the greatest number of points for this massage is located on the face and back as well as on legs and chest). The method provides several courses, each of which includes 15 procedures. The break between the first and second courses is around 2 weeks; six months is the break between the second and third courses. Sometimes, the course can be started earlier if the defect aggravation is noticed (Ibragimova, 1984).

The *folk healers* are using prayers, pouring the wax, various herbal extracts, special manipulations with different objects having therapeutic properties, magical passes, suggestions, etc. (Solov'eva, 2005).

These methods are criticized, since they are not really healing from the point of view of the official medicine. Quite often, they are used in addition to the traditional methods.

## **Modern computer technologies**

The modern (contemporary) technologies include the computer programs; these programs could also be considered as the self-treatment methods because they are available for home use.

*Speech Corrector.* The method is based on synchronization of the speech and hearing centers. A person speaks into a microphone, and the unit slightly delays playback voice. Hearing his own speech, the person tries to adjust to it. After a while, speech of the stutterer becomes smooth and quiet (axSoft Laboratories, 2012).

*Breath Maker,* this program focuses on the correct and rhythmic breathing (RC For BioCybernetics, 2008).

## **Proprietary techniques**

The proprietary methods available in the Ukraine are in general the different combinations of the above mentioned approaches. Some methods are more biased towards the psychotherapy and thus their effectiveness often depends on the skills of the specialist as a psychotherapist. Among the methods adopted from Russia, I can mentioned the method of Professor *Andronova-Arutyunyan* (Arutyunyan, 1993). The essence of the method is in synchronization of human speech with the movements of the dominant hand fingers. Coaching is carried out in stages during which a person learns that the hand movements determine the pace and rhythm of speech. After a while, dependence on hand disappears and the speech becomes free and smooth, without hesitations.

In the method of breathing exercises according to *A. N. Strel'nikova* (Shchetinin, 2008), the short and sharp inhalation through the nose is done on the motions compressing the chest. The exercises actively engage all parts of the body (arms, legs, head, hips, shoulders, etc.) and are run concurrently with the short and sharp breath through the nose (with absolutely passive exhalation). This enhances the internal tissue breathing and increases oxygen absorption by the tissues. In addition, it irritates that vast area of receptors on the nasal mucosa, which provides refectory connections of the nasal cavities with almost all organs and has revitalizing effect (Shchetinin, 2008).

# Chapter 5: Discussion and Summary

As we can see from the previous Chapters, it is obvious that we can find more differences than common in understanding the phenomenon of stuttering, its classification and treatment approaches in Norway and Ukraine.

Use of socio-cultural theory of Vygotsky (1978) and of the Bronfenbrenner's (1979) ecological systems theory during analyses, leads to understanding of stuttering as a disability and to the fact that its treatment should be analyzed in the context of social, economic and political relations in these two mentioned countries as well as taking into account the cultural features of each country. This conclusion is also supported by the theories about different models of designation and treatment of disability and by the healthcare sectors, interactions: speech language therapist/specialist – person who stutter, teacher – person who stutter, peers – person who stutter; role of the family and environment (Figure 2).

Review of theories concerning main cause of stuttering and its appearance shows wide range of views and understandings which led to partially common statement of its definition, differences in classification, as well as treatment of stuttering.

In addition, I would like to admit other factors that influence the appearance of different approaches in treatment of stuttering in two countries. Highlighting and understanding these factors will help in future for better adoption and implementation of the approaches for treatment of the stuttering that could be considered as “new” and worth to use in each country.

## 5.1 Common and differences in understanding phenomenon of stuttering and its treatment in Norway and Ukraine

The main common factor that now combines understanding of stuttering in Norway and Ukraine is the definition in ICD-10, which is now accepted and is in official use in both countries. However, the way of understanding and perception of the phenomenon is still influenced by the definitions given by the specialists who directly deal with stuttering, as well as by the persons who stutter themselves.



For better understanding the definition of stuttering, the Western scientists, stressed on meaning of fluency that plays a key role in this disorder while the Ukrainian scientists stressed on the definition of the spasms of the vocal apparatus muscles, on the presence of acute or chronic psychological trauma or features of the organic brain damage.

Through an overview of the stuttering history and theories (Belyakova & Dyakova, 1998; Guitar, 2013; Ham, 1990; Missulovin, 1997; Shapiro, 1999; Volkova, 2011; Vlasova, 1978), it appears that the researchers consider that stuttering has a multi-factorial origin with suggested environmental, neurological and genetic etiology. There could also be found some parallels in that stuttering has connections with the brain organization, respiration disorders, connected with neurotic symptoms, psychological factors, stress, features of the physical, cognitive and social development, etc.

The approaches of stuttering assessment (interview, family history, speech language sampling, behavior patterns, academic abilities, etc.) are partially common.

Another common feature is that the treatment options are divided according to age stages (for preschool children; school age children; adolescents and adults).

In addition, the common feature is that the treatment approaches should be implemented in complex and with involving of family members, teachers, peers, etc., and possible change of the environment.

We can find partially common use of some approaches in both countries but their significance and place in treatment are often different. Such examples include formation of speech breathing (Peters & Guitar, 1991; Belyakova & Dyakova, 1998; Counter & Curlee, 2007), muscle relaxation and positive self-acceptance (Seliverstov, 2000; Craig, 2010; Volkova, 2011).

The observed differences are caused by the found differences in theories about the causes and mechanisms of stuttering, different ways of its assessment and involvement of specialists, as well as classification.

The different features include one-side classification of stuttering in Norway and longtime use of own established classification system in the former Soviet Union and now in Ukraine but which does not fit to the newly accepted definitions according to ICD-10. During my

research, I encountered the differences in terms and definitions as well as the fact that stuttering is described and understood as different process in entire speech language science in each country. It was often impossible or difficult to find in Norway the analogs of the terms used in Ukraine and vice versa. We need also to count for the influence of science *Defectology* on everything what was established in Soviet Union and then inherited by the Ukrainian speech language science, since *this science* used to be the part of Defectology and was included in Defectology's section of special pedagogic. I think, this is another reason why some symptoms, which are included in description of stuttering in Ukraine, could remind the Norwegian specialists the stuttering-like symptoms of other disorders, such as *spasmodic dysphonia*, *palilalia*, selective *mutism*, and social anxiety.

In Ukraine, classification of stuttering plays a significant role in the following treatment, it is generally more comprehensive, and, therefore, inappropriate designation of the stuttering form can lead to less effective results of treatment. In Ukraine, more specialists are usually involved in assessment and treatment of stuttering than in Norway. In addition, the organizations of providing the treatment are different.

Furthermore, supportive pharmaceutical treatment plays important role in Ukraine and almost out of use in Norway. For better visualization, the common and different features are summarized in Tables 1 and 2.

## **5.2 Influence of different factors on treatment of stuttering in Norway and Ukraine**

Forms and procedures of stuttering assessment also determine the forms and procedures of its treatment. The adequate equipment, questionnaires and the specialists who are dealing with it are very important. The interactions between a speech language therapists/specialists and a person who stutter, between a teacher and a person who stutter, between the peers and the stutterer, and the family involvement will influence the treatment and recovery of a person who stutters. The awareness about disorder, reactions (fear, embarrassment, irritation, anger, etc.), specific behaviors, physiological factors (respiration, phonation, articulation and general coordination) and environmental factors (home, specialist's office, therapy center, kindergarten/school, etc.) should be considered as factors which influenced the treatment of stuttering in Norway and Ukraine.

Age of the person at the start of therapy is a factor that decides what kind of therapeutic technique should be used, where and who should be involved. In most cases, the therapy is divided into age categories: preschool (3-6 years), elementary school age (6-9 years), preadolescent (9-16 years) and adolescence. This range is approximate and can vary depending on these categories, involvements of home, parents, school, and peers could also vary. This is accepted in both countries as well as that early diagnosis and treatment plays a significant role.

According to the above-mentioned facts, the biggest challenge for any specialist (speech-language therapists, neuropathologists, physical therapists, occupational therapists, counselors, and psychotherapists) is to decide what therapeutic approach has the highest probability of helping the particular individual. The research consistently shows that techniques themselves are not the major agents in therapy. Instead, characteristics of the person, family, and environment, the therapeutic relationship, and the power of both the patient's and the therapist expectation of success (hope) appear to contribute to the most of the successful outcome (Guitar, 2013; Volkova, 2011).

### **5.2.1 Models of designation and treatment of disability**

I should also mention the theories about medical, social and ecological models of designation and treatment of disability which affected the approaches for treatment stuttering. In Ukraine, the medical model is widely admitted where one assumes that the physical condition or disease exists within the patient. Therefore, the disease manifestations are subsequently categorized and classified. The goals of the medical model include prevention, treatment, and management of the disease processes and traumas in service of reducing or eliminating the pathology associated with disability, as well as secondary conditions (Drake, 2001).

In Norway, it is difficult to identify which model is actually in use. According to the author's opinion, the patterns of each from three models can be found. Anyway, the signs of social model are more pronounced. Norway identifies systemic barriers, negative attitudes and exclusion by society (purposely or inadvertently) which mean that the society is the main contributory factor in disabled people. The aim of implementing this approach is to take into account the above-mentioned features and to include the people into the society regardless of their individual differences, thus providing them with opportunity fully using their human rights. Here it also implies that people with similar needs are treated similarly, regardless of

whether those needs arise from a health limitation or not (Helsedirektoratet, 2009). Moreover, interactions between the person and the environment are considered as important in Norway and that echoes with the ecological model.

### **5.2.2 Assessment of stuttering**

In assessment of stuttering in Norway and Ukraine, first of all we can see difference in involvement of the specialists. In Norway, it is mainly speech language therapists and in Ukraine speech language therapists, neurologists, psychologists and others.

In Norway, the doctor is required to certify the medical condition, i.e. the relevant medical diagnosis/diagnoses, and to assess the consequences of this/these. Diagnoses must be accepted by the international standards and the ICPC-2 (International Classification of Primary Care), or ICD-10, guidelines are used for coding purposes (Helsedirektoratet, 2011, 2012). The doctor is supposed to judge whether the medical condition restricts the person's 'functional ability' (*funksjonsevne*), which leads to impairment. Here the model implies that the people with similar needs are treated similarly, regardless of whether those needs arise from a health limitation or not. In Ukraine, similar function is provided by the commission of the medical and social experts (Cabinet of Ministers of Ukraine, 2011).

Due to a higher level of economic development in Norway, there are more possibilities to use technical support in diagnosis and treatment of stuttering. Among them are video-recording capacity, audio-recording capacity, computers, digital counters, etc. In contrast, audio recording and new computer techniques based on digital equipment are not available in Ukraine for each person who needs it.

Among the assessment procedures, the following should be mentioned for both countries: the interview procedure, which includes the family history, assessing communicative and relative behaviors, fluency of speech, types of disfluency, frequency of stuttering, duration of the fluency, number of variety of associated behaviors, articulation, expressive/receptive language, voice, general development, person's academic evaluations, abilities of hearing and reading, psychosocial adjustment, etc. All these need to be investigated for possibility of proper diagnosis and to plan and prepare the adequate therapy.

However investigating the family history, a medical history from mother's pregnancy, birth and social being up to the day of the stuttering assessment are very important for the Ukrainian specialists. The difference also lies in the fact that Ukrainian specialists pays more attention to the shape and location of the muscle spasms in the vocal apparatus, the presence of acute or chronic mental trauma, signs of organic brain damage, frequency of symptoms and the safety features of speech, as well as to the accompanying speech motor functions. Also following the Ukrainian classification, the designation of stuttering forms is more comprehensive.

### **5.2.3 The sectors of healthcare**

In Norway due to organization of the medical service and cultural features, the professional sector plays the great role in diagnosis and treatment of stuttering. In addition, in Norway both the National Insurance Administration and the Employment Service see the vocational rehabilitation as an integral and important part of the remit. In some cases, the patients refer to privately paid services but it is also provided by the professionals with special education. Most of medications can be received only by the doctor's prescription (Norwegian Prescription Database [NorPD], 2013). The visit to the doctor/specialist is regulated (by receiving special time of appointment) and mostly connected to the place of living.

In Ukraine, the situation is different. The members of society are often using all possible sectors of healthcare (professional, popular, folk). Depending on kind of the illness, one sector dominates or all three sectors are used simultaneously or in sequence. Some medications that in the most Western countries would only be prescribed by the physician are freely available for purchase by the Ukrainian citizens, as regulated by the Ministry of Health of Ukraine (2013). The visit to the doctor is mainly connected to the place of living and organized in form of "live queue" (waiting of acceptance by specialist in patient's self-organized order) during the limited working hours.

Regarding treatment of stuttering, the Ukrainian society quite often put into the first place the popular and folk sectors and then, when the persons who stutter does not receive the relief from his condition, the professional sector starts playing a role. The reason of this lays in folk believe that stuttering is often cause by fright in early childhood or "*whammy*" (evil eye) from a bad person and can, therefore, pass away by itself or with the help of manipulations and herbal medications from "*znachar*" (witch-doctor). That is why instead of waiting sometimes

for many hours in “live queue” to visit the professional specialist, the parents with a small child often prefer to go somewhere, where they believe to receive quicker and more appropriate in their views help against stuttering. They can approach folk healers or even perform self- treatment using the textbooks and/or unscientific books. They can also follow advices from the relatives/acquaints, and use the self-prescribed medications among freely available in drug stores. The commercial medical centers and places where the treatment according to the so-called *proprietary techniques* are provided (methods of treatment stuttering invented by one particular specialist) become very popular nowadays. Some of these approaches still come from Russia and are found as very useful among the Russian speaking Ukrainian population. However, the professional sector is very strong and the speech language therapists provide their services in municipal clinics, neurological clinics, speech-therapy centers, health centers, in kindergartens, schools, sanatoriums (institutions for the medical care and recuperation of persons who are chronically ill or health resorts), etc.

With the growth of using internet, different on-line forms and internet societies of persons who stutter become very popular; this is also used as sources of information about new approaches, places where treatment is provided and of good specialists.

#### **5.2.4 Interactions between speech language therapist and a person who stutter, role of the family and environment**

According to Ham (1990), several Western and particularly the American researches admitted that many specialists dealing with treatment of stuttering had reported poor experience with therapy of stutterers, some of them had even never observed them.

Therefore, it is necessary to mention that in Norway great attention is paid to proper teaching the future specialists on stuttering. For example, stuttering is an important part of SPED4200 program at the University of Oslo and is a part of the course LOGO314 at the University of Bergen.

Stuttering is also included into the education process of the speech language therapists and neurologists in the Ukrainian Universities, however, it is taught only as a part of the general education on the speech language disorders without particular emphasis. Only during his/her professional work, the specialist starts receiving specialization and becomes more knowledgeable about this disability and ways of its treatment. It is necessary to mention that

in Ukraine there is a large number of specialists who are involved in assessment of stuttering and can provide different approaches for its treatment.

In the considered two countries, the parents, relatives, teachers, peers, etc., in most cases receive knowledge about stuttering and persons who stutter only when they directly encounter this problem. Nevertheless, they play a significant role in the life and treatment of persons who stutter.

The experience of individuals with this disorder also includes negative effects, behavioral and cognitive reactions, both from the speaker who stutters and the environment. It also involves significant limitations in the individual ability to participate in daily activities and a negative effect on the person's overall quality of life (Yaruss & Quesal, 2004). The individuals who stutter may strive for lower levels of achievement due to the low self-esteem and the overwhelming fear of failure (Van Riper, 1982).

There are also interactions with the developmental factors. For example, the physical, cognitive, emotional and linguistic domains may compete for resources and affect the child's capacity to handle the demands.

The persons, who continue to stutter for a long period of their life, develop their own way of how to accommodate the life and their communication needs. Unfortunately, quite often they have limited vocational opportunities, friends, family relations and partner selection (Peters & Guitar, 1991).

In Norway, due to a long history of implementing inclusion and different anti-bullying programs, accepting acts concerning human rights and rights of persons with disabilities, it is reasonable to assume a relatively low level of bullying the persons who stutter.

Unfortunately, in the Ukrainian society, there is still little change in mentality regarding the persons with disabilities, due to the long history of segregating these members from the society. Ignorance, neglecting, taboos, superstitions and fear are also the reasons that hinder the development of these persons and lead to their isolation. The stutterers are often bullied at schools. In addition, for many years the concept of so-called "professional suitability" determined the future destiny of the person in his professional activity. The term "professional suitability" means a set of individual human features, which determine his/her fit to the requirements of a particular profession. The certain individual health features that can cause

professional incompetence are considered as a contraindication to a certain profession (Dushkov et al., 2005). It means that a person who stutters would almost never have chance to become a specialist in stuttering treatment as, e.g., an American scientist Van Riper, or to be a professional speaker (weather forecaster on TV/radio, sport commentator, etc.).

## 5.3 Summary

Since the knowledge about stuttering and persons who stutter can affect the process of treatment, the specialists dealing with this phenomenon should be aware of this disorder, its nature, etiology, development and intervention process, from the past and present perspectives and what is important in our days – in the international frame.

Although Ukraine has accepted and implemented the ICD-10 guidelines for use to follow the international trends in designation of the disorders, there is a big gap between this classification and those that were used previously. Understanding of the illness and disability is still driven by the theories of the former Soviet science. It needs time to accept new views currently adopted only on a *macrosystem* level and let them come into an agreement on all other levels. The Norwegian experience is a good example of implementing inclusion and the methods of designation and treatment of disability according to ICD-10. In addition, this experience may in the beginning help to Ukraine avoiding some unnecessary steps.

This research broadens and deepens the knowledge about stuttering and its treatment. It provides a possibility to look at this phenomenon from the different points of view and in historical and cultural retrospective. It definitely raised my own qualification in treatment of the persons who stutter. Now I am aware and know more about the treatment approaches and the programs, which demonstrated themselves as effective through different studies. As a speech and language therapist, I will be able using this knowledge and implementing it in practice. In addition, the present research will be interesting for the researchers and professionals who deal with stuttering as the disorder, for the educators (teachers and kindergarten leaders), also for the people who stutter themselves and their families. The present study also provides the basis for performing research in the future using the methods, such as survey, interview and observation, to investigate how the specialists use theories and different treatment programs during their routine work with the persons who stutter in Norway and Ukraine.



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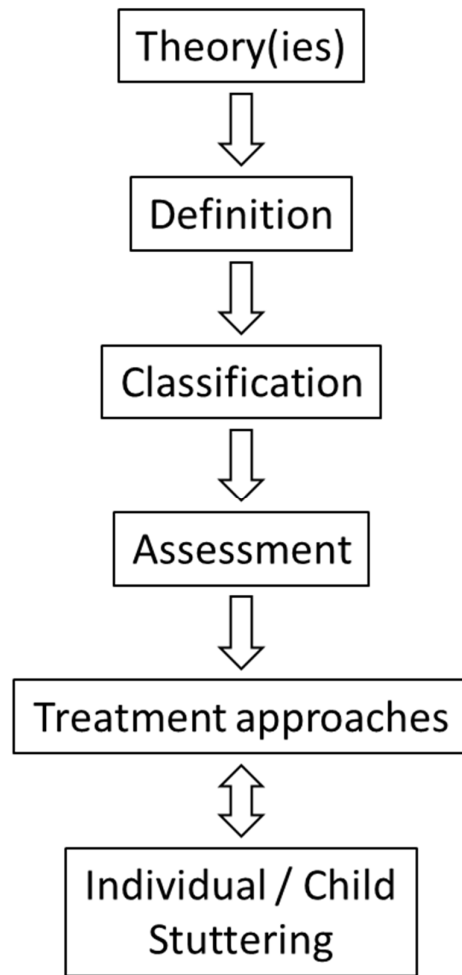
# Appendix

**Table 1:** Common features in treatment of stuttering in Norway and Ukraine.

COMMON	
NORWAY	UKRAINE
ICD-10	ICD-10
Partially common statement in definition (Guitar, 2013)	Partially common statement in definition (Khvatsev ,1996;Volkova, 2011)
Partially common theories (Guitar, 2013; Ham, 1990; Shapiro, 1999)	Partially common theories (Belyakova & Dyakova, 1998; Missulovin, 1997; Volkova, 2011;Vlasova, 1978)
Partially common approaches of stuttering assessment (interview, family history, speech language sampling, behavior patterns, academic abilities, etc.)	Partially common approaches of stuttering assessment (interview, family history, speech language sampling, behavior patterns, academic abilities, etc.)
Treatment options are divided according to age stages (for preschool children; school age children; adolescents and adults)	Treatment options are divided according to age stages (for preschool children; school age children; adolescents and adults)
Partially common approaches for treatment of stuttering, e.g. formation of proper breathing (Peters & Guitar, 1991; Counter & Curlee, 2007), muscle relaxation, positive self-acceptance (Craig, 2010)	Partially common approaches for treatment of stuttering, e.g. formation of proper breathing (Belyakova & Dyakova, 1998), muscle relaxation, positive self-acceptance (Seliverstov, 2000; Volkova, 2011)

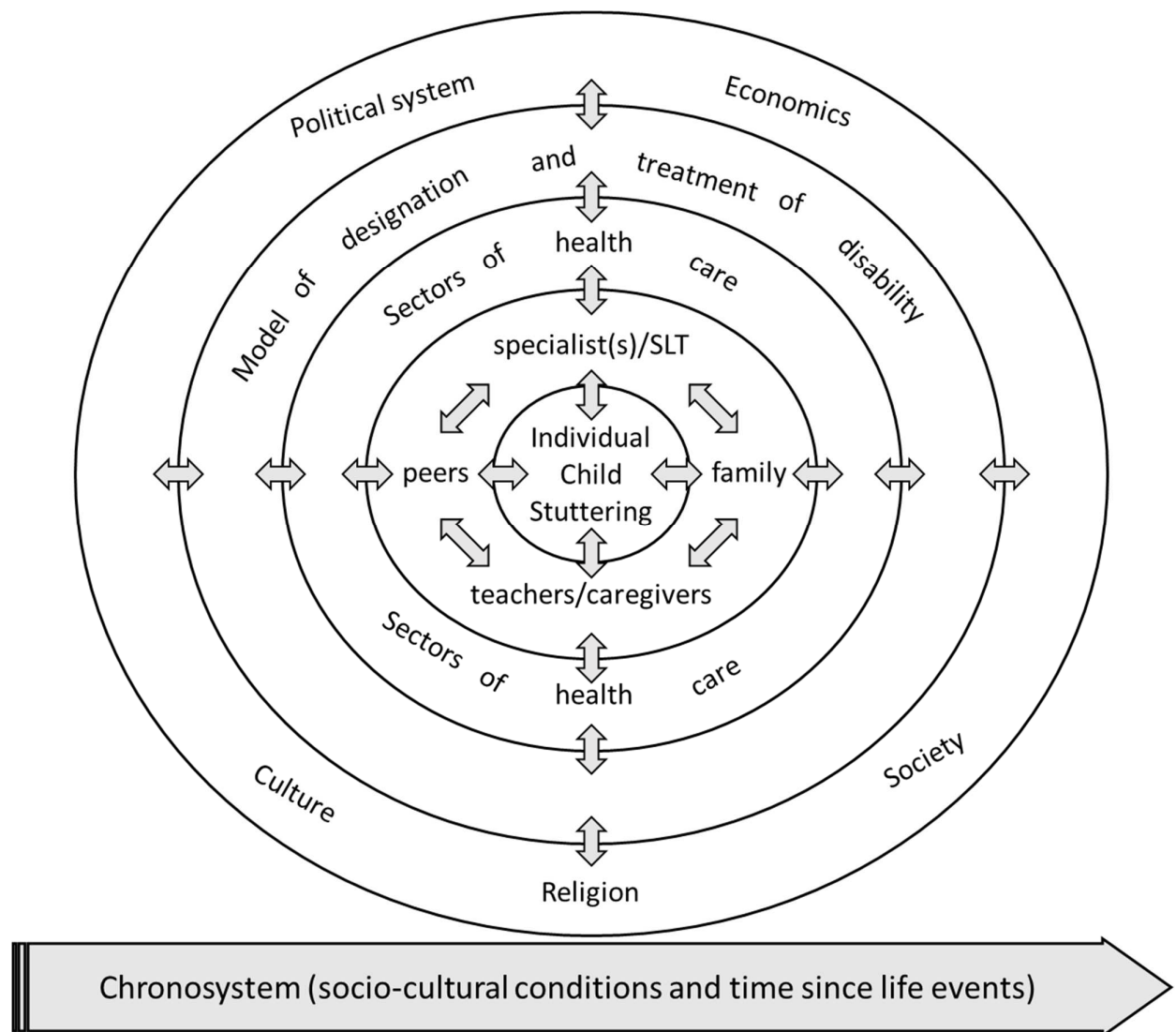
**Table 2:** Differences in treatment of stuttering in Norway and Ukraine.

<b>DIFFERENT</b>	
<b>NORWAY</b>	<b>UKRAINE</b>
Number of persons who stutter - approximately 40,000; 0.8% of total Norwegian population (NIFS, 2013a)	Number of persons who stutter - approximately 1.4 million; 3% of total Ukrainian population (Men'shikova, 1999; Seliverstov, 2000)
Classification according to the severity of the condition and the stage when the stuttering developed	Classification according to kinds of muscle spasms and symptoms
Differences in terms and definitions (also no analogs of the terms)	Differences in terms and definitions(also no analogs of the terms)
Supportive medication out of use	Supportive medication plays important role
Many approaches to choose, structured programs (e.g. Van Riper, 1982; Onslow, 2003; Shapiro, 1999; Guitar & McCauley, 2010)	Established general approaches, complex and complicated range of approaches (e.g.Arutyunyan, 1993; Belyakova & Dyakova, 1998; Seliverstov, 2000; Volkova, 2011)
High technical support	Low technical support
Number of specialists which are involved in treatment of stuttering (mainly speech language therapists)	Number of specialists which are involved in treatment of stuttering (speech language therapists, neurologists, psychologists and others)
High trust to official medicine (preference to use professional sector of health care)	Preference to use first popular and folk sector of health care
Understanding and tolerance towards the disability (influence of inclusion)	High level of bullying (influence of defectology)
High level of attention to proper education how to treat stuttering	Common education in speech therapy with the following specialization during the professional work



**Figure 1:** Model of stuttering determination from theory to direct treatment of an individual.





**Figure 2:** Ecological model of interactions between different systems determining treatment of stuttering based on Vygotsky (1978) and Bronfenbrenner (1979).